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ORIGINAL ARTICLES.

THE GEOGRAPHICAL DISTRIBUTION OF URINARY CALCULUS, WITH AN INQUIRY INTO ITS CAUSES.[1]

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IT is a fact universally recognized that stone occurs more frequently in certain portions of the world than in others, but a satisfactory explanation of the fact has not yet been established. It is customary to ascribe it to the hard waters of the affected districts; but investigation disproves the validity of such a claim. Agnew[2] states that in certain valleys in Lancaster County, Pennsylvania, of limestone formation, the water is very hard, being strongly impregnated with lime; yet calculus is not common in these valleys, and he joins former writers in the very apposite reflection that it is difficult to understand how calculi, most of which are composed of uric acid, should be stimulated into growth by the use of alkaline lime-water.

Civiale, whose statistic researches on this subject were very thorough, has written,[3] "Dr. Warren, of Boston, recently told me that stone is very rare in Massachusetts, and is almost unknown in those localities where granite rock abounds, while it is found occasionally at other points, where the soil is calcareous; but this alleged influence of the nature of the soil upon the production of calculous disorder is an hypothesis only admitted to explain facts, the true cause of which is not evident. Several of the localities from which I have received statistical documents possess the granite formation, yet, in spite of this, calculus is far from being a rare disorder there. I may cite among others certain points in Sweden."

Again, speaking of the stone cases reported from the Department of Var, in France, he says: "The malady seems to be equally divided among all classes of society. The nature of the soil, which is flinty and granite on the coast, and calcareous in the interior, does not appear to make any sensible difference in the distribution of the cases."

Cadge,[4] of Norwich, England, on the other hand, ascribes the great frequency of calculous—urid acid—disorders in the district to the hardness of the waters. Prout distinctly states his belief that hard waters are a factor in the production of stone, and many excellent urinary pathologists and practical surgeons agree in this way of thinking. Reginald Harrison[1] tries to explain it on the ground that hard waters interfere with digestion, and in that way modify the conditions of the solids in the urine and the state of the colloids. He adduces in support of his argument the frequency of stone in the bladder in the young among the poor about Norwich, and the fact that milk is scarce and dear, and quotes from the essay of Cadge that the frequency in this district of the occurrence of stone in children "will be found in strict accordance with the difficulty of producing milk."

In this connection, as to the liability of drinking-water to stand in a causal relation to calculous disorder, it is proper to call to mind a fact vouched for by Roberts,[2] and only to be explained on the ground of coincidence, or of cause and effect. He says: "The suburban district of Hulme supplies considerably fewer cases of stone to the Manchester Infirmary since the pipe-water has replaced the old pump-water supply."

It is proper also to refer in this context to a curious indirect means by which the drinking of water may prove a source of stone formation. Zancarol,[3] surgeon to the Greek Hospital at Alexandria, Egypt, states that the natives drink unfiltered Nile water, and imbibe the *Distoma hæmatobium;* that the animal and its ova can always be found in the urine, and among the layers of stone as extracted from the natives; and that the latter suffer frequently from calculous disorder. Foreigners, on the other hand, who drink only filtered Nile water, do not often have stone, and their urine does not contain the distoma or its ova.

Roberts[4] also ascribes the frequency of calculus in Egypt to the presence of the minute urinary parasite, the *Bilharzia hæmatobia.*

But to return to the water question, pure and simple, Mastin[5] takes the other side of the argument, showing that in Kentucky and Tennessee sandstone districts, where the water is very soft, calculous disorders are common, while they are just as frequently encountered in the limestone areas of the same region. Where hard water is drunk in Alabama, where stone is quite uncommon, Mastin says there have been only fifty to seventy-five operations performed upon the natives of that State since its settlement in 1817. Most of the cases have originated in a belt of country running east and west, and including Tuscaloosa, "a pure sandstone region with the softest and best water in the State." Mastin further adds in connection with the question of stone in Alabama: "The northern

[1] Read before the New York Surgical Society, February 12, 1884.

[2] Surgery, second volume, p. 631.

[3] Affection Calculeuse, p. 588, Paris, 1838.

[4] Transactions of the British Medical Association, 1874.

[1] Lectures on the Surgical Disorders of the Urinary Organs, second edition, p. 245, 1880.

[2] Urinary and Renal Disorders, 2d Am. ed., 1872, p. 274.

[3] Rev. de Chirurg., August 10, 1882, p. 645.

[4] Op. cit., p. 275.

[5] Causes and Geographical Distribution of Calculous Diseases. Transactions of the International Medical Congress, Philadelphia, 1877, p. 609.

and eastern sections abound in blue limestone, and the water is very strongly impregnated, yet we rarely, if ever, hear of a case of gravel or limestone within these limits. Again, in middle and southern Alabama, the base of the soil is what is known as "rotten limestone," and the water strongly alkaline; this is also the case in eastern Mississippi, and still we have been unable to obtain reliable information of even a half dozen cases of stone having ever occurred in these regions.

He cites also Dr. Guild, the leading surgeon of Tuscaloosa, as asserting that all his stone cases have come from the sandstone district, where soft water is used.

Therefore it seems fair to assume that whatever influence hard water may have in the production of stone must be exercised in some secondary manner, as by deranging the digestion (if it operates at all, which may be considered doubtful).

Probably no country is entirely free from areas in which stone formation is relatively prevalent, but the distribution of these areas seems to be arbitrary. Thus in England, where stone is quite common, the eastern counties of Norfolk and Suffolk appear to be most afflicted. It is noteworthy that as many cases occur each year in Norfolk among its 438,656 inhabitants (Cadge), as in all Ireland with a population of 5,412,377. The northern counties of Ireland and of Scotland furnish more cases than the remaining portions of those countries.

Calculous disease abounds in France, as Civiale has clearly brought out, in Teneriffe, in Iceland, in Egypt; it is also very common in Russia. Klein[1] states that cases of stone sometimes constitute a fifth of all the patients under treatment in the hospitals of Moscow.

Estlander,[2] on the other hand, shows that primary calculous disorders are almost unknown in Finland, the University Hospital case-books containing only one Finlander, with a stone originating in the kidney, during a period of forty-four years. There were cases of phosphatic stone with paralyzed bladders, etc. Civiale[3] notices a similar immunity in Christiania, where, out of thirty-two hundred and eleven patients in hospital during four years, only one had stone; while in the hospital of Gothenburg, in Sweden, a hospital of sixty beds, there had been no stone case since the existence of the hospital—a period of fifty years.

Fayrer,[4] a well-known authority upon medical questions in India, states that stone is very frequently encountered in the northwestern and central provinces of that country; five hundred and fifty-four cases were cut for stone during a single six months in 1863. In Lower Bengal stone is rare. Fayrer[5] says that lithotomy had been performed only about one hundred times in the Medical College Hospital up to 1873. Harris[6] confirms the fact as to Bengal, and ascribes the prevalence of the malady in the northwestern provinces to the cold winds which blow from the Himalayas, and to a heavy unfermented bread used by the natives. Dr. Garden's testimony from the Sarahunpore Dispensary is corroborative of the frequency of stone in India. Mastin[1] refers to Curran for authority in stating that Hindostan is exceptionally rich in stone cases. Vandyke Carter[2] speaks for Bombay and the great prevalence of oxalate of lime calculi in that region. He thinks that stone is more common in Bombay or western India than in the southern or Madras Presidency. Mr. Dudgeon,[3] of Pekin, who succeeded Kerr in China, informs us that in China, at Canton and Takow in Formosa calculus is found, but apparently not elsewhere. At Pekin the water is full of lime; at Canton very soft. Kerr[4] also states that Canton furnishes the stone cases of China, the missionary hospitals of twenty years' existence in Ning-Po and Shanghai, and at Pekin and Hangkow for eight years, having supplied attendance to thousands of patients, but not to a single case of stone. The Rev. P. Parker, it appears, founder of the Medical Missionary Society, performed the first lithotomy of which there is any modern record in China.

In Norway, Sweden, Denmark, Syria, and Spain stone is not very common. In France and Holland it is abundant. In Austria, Germany, Italy, Persia, and Syria it is reasonably frequent in occurrence.

In Mexico, Central and South America, and Australia, so far as known, the disease is not common. Livingstone failed to find syphilis or stone among the natives of Central Africa.

In North America, in the United States, the greatest number of stone cases originate in the central districts—Tennessee, Kentucky, Ohio, Indiana, Missouri, Western Pennsylvania, and Virginia. In Utah it is said to be common. Authorities differ as to Georgia and North Carolina. In the Northern, Eastern, Gulf, Southern, and Western States calculus is uncommon, as it is also in the Canadas and British possessions.

These inequalities of distribution are not satisfactorily accounted for by any peculiarities of race, food, habits, soil, climate, temperature, or water.

I am speaking of primary acid stone formation; secondary phosphatic stone, due to obstructive and catarrhal maladies of the genito-urinary tract, or to the presence of a foreign body, is found equally in all climates and in all conditions of life provided only the proper etiological factors are present locally in the individual.

Why, then, does the fact exist that certain portions of the earth's surface are more fertile in stone cases than other portions?

Race may have something to do with it, even under the same conditions of climate, etc. Gross,[5]

[1] Ueber die Steinkrankheit und ihre Behandlung. Archiv f. klin. Chir. Bd. vi. S. 78.
[2] Trans. Int. Med. Cong. Phila., 1877, p. 663.
[3] Affection Calculeuse. Paris, 1838, p. 580.
[4] Referred to by Coulson, Dis. of Bladder, etc. 6th ed., p. 378.
[5] Clinical and Pathological Observations in India, 1873, p. 385.
[6] Indian Annals of Med. Science, 1868, No. 23, p. 20.

[1] Loc. cit., p. 618.
[2] Calculous Disease in Bombay. St. George's Hospital Reports, 1871–2, p. 83.
[3] Calculus in China. Med. Times and Gazette, Sept. 2, 1876, p. 252.
[4] New York Medical Journal, 1871, p. 365.
[5] Op. cit., p. 168

among the lithotomies reported during a certain period in different Southern States of mixed population, found the proportion to be one negro to six whites. Rayer states that the negro escapes in Egypt, while the Arab suffers. Mastin[1] has collected three thousand and thirty-nine reliable lithotomies in America, and finds only one hundred and two put down to the negro and thirty-one to the mulatto. Mastin further notices that gout is very rare among the black people in the United States, and he quotes Winterbottom as vouching for the same fact for the native Africans around Sierra Leone. These statements appear to have a direct bearing upon the question. Reports like those of Livingstone concerning the negroes of Central Africa are not in point, since the districts did not contain a population of mixed races for comparison.

Climate.—That climate alone should influence stone formation seems improbable. There is no striking analogy of climate between Moscow and Kentucky. Temperate zones seem to be most afflicted, yet the cold winds of the Himalayas and the general boisterousness of the winds about Norwich, England, have been accused as contributing to the stone tendencies of those regions. The central districts of the United States, however, are not preëminently windy. In France, Civiale found the proportion of cases in the Var district the same inland and on the coast. The New England shores are subject to dampness and boisterous northeasterly gales, yet the calculous malady is not common there. Soldiers and sailors are reported by all who have given attention to statistics to be remarkably free from stone, yet their life is surely one of exposure, and the reason for their immunity must rather be set down to the fact that most men practising those professions are between the ages of twenty and forty—a period of life most exempt from stone.

Social Condition, Habits, and *Occupation* are not paramount as etiological factors of stone, although they have a certain bearing upon it. Civiale distinctly states that, in his collections in France, social position made no difference in the relative number of cases found in a certain district. Undoubtedly there are more stone cases among the poor than among the wealthy; but the latter class is very small in any community, and nearly all the cases of the poor go to the hospitals for operation, where they are sure to be recorded, while the wealthy escape tabulation to a certain extent.

In New York there is very little tendency to stone formation. During nearly thirteen years' connection with active surgical work in the Bellevue and Charity Hospitals, I have found in my service only two cases of stone; all the others with which I have had to do in hospital have been sent in by myself from outside. By far the greater portion of stone cases which I have had to do with have been found among patients in easy circumstances; but this, of course, is accidental, and by no means indicates that more wealthy than poor people have stone in New York.

[1] Loc. cit., p. 618.

Thompson,[1] however, remarks that he does not "know any disease which marks more distinctly or more curiously its relations with class than this. So common is stone in the children of the poor, comparatively speaking, that at Guy's Hospital, surrounded as it is by a very large neighborhood, densely populated by some of the most badly nourished classes of the community, quite one-half of the cases admitted are children. Among the same classes, however, it is rare at the other end of life, very few elderly workingmen in London being afflicted with it. On the other hand, among the well-to-do and well-fed, while almost never found in childhood, it is comparatively common in advanced age."

Alcohol.—It is doubtful that alcohol will produce stone without other predisposing agencies. In large cities alcohol is consumed freely; but no statistician has noted a special prevalence of stone among adult dwellers in cities over the relative average among the natives in the surrounding counties. An abundance of liquor is consumed in Scotland and in Ireland; doubtless as much as, or more than, in England, yet the latter locality is the favorite one for stone. Some wines, like Rhine wines, as Sömmering has pointed out, being charged with bitartrate of potash, rather militate against tendencies to stone; but sweet, fermented wines, champagnes, and malt liquors, since they increase the tendencies toward uric-acid formation, undoubtedly aggravate any predisposition to stone formation which may already exist.

Food alone cannot materially promote stone formation by its quality, although, where the tendency exists, it may be intensified by the quality of the food. Thus, in India, Vandyke Carter found oxalate of lime nuclei among the calculi of the rice-eating natives; but it is not starch as food that causes stone, or the potato-eating Irishman would be prone to it, which is not the case; nor is it rice-starch, or the Chinaman would be as constant a stone producer as the Indian, which again is not the case.

In Europe and America, uric acid stones are the rule; but if a meat diet caused stones, the latter would be much more common in cities, where much meat is consumed, than in the surrounding country, which again has not been noted as a fact.

Abundance of milk as a diet has been supposed to avert tendencies to stone, and probably this is true, but alone it is an insignificant factor. Indigestion again has been accused as causing stone formation, but if indigestion alone were a main cause, surely the disease ought to be rampant in New England, where hot bread, pie, and rapid eating, with accompanying bad teeth and dyspepsia are the order of the day among the people—and yet stone is very rare in New England. A possible reason for the relative frequency of oxalate of lime in the calculi of India, may perhaps be found in the well-known disturbances of the liver which are said to be common in that climate, the cause of

[1] Clinical Lectures on Diseases of the Urinary Organs, sixth edition, 1882, p. 67.

oxaluria being often, in this country at least, associated, if not identical, with functional hepatic disturbance.

Constitution.—It is probably not doubtful that gout and rheumatism increase any existing tendency there may be to stone formation, because these diathetic conditions are accompanied by acidity of the urine, as a rule, with a tendency to abundant excretion of uric acid, urates, and the like. A gouty individual, leading a sedentary life, drinking beer and champagne, and eating a highly nitrogenized diet, especially if he does not exercise, has a little dyspepsia, and is constantly kept anxious about his business, is exactly in a fit condition to form stone easily. Cases of kidney colic with the passage of small acid concretions are constantly furnished by this class of individuals.

Allowing then, if the foregoing representations are accurate, that water, climate, soil, occupation, exposure, digestion, alcohol, and food are not responsible for the geographical distribution of stone, granting some weight to race and social condition, and considerable influence to the rheumatic diathesis, what factor remains to be considered, for surely these alone are not entirely sufficient?

The only one which seems capable of filling up the gap is heredity.

As gout is hereditary, so are the tendencies to stone. I have, at present, under observation a family in which three generations, all living, have strong and constantly outcropping tendencies to the appearance of fine, uric-acid gravel. The baby of four years, and the grandfather of seventy, manifest it about equally. Mr. William Cadge,[1] in discoursing recently to the Norwich Medico-Chirurgical Society about a woman with sacculated bladder and stone, mentioned that the patient's father had died after lithotrity, and that her brother, living in Buckinghamshire, was then said to be suffering from stone.

The most celebrated recorded instance of inherited tendency to stone, so far as I am aware, is that reported by Mr. Clubbe,[2] of Lowestoft, where six children all had stone, the father and mother passed quantities of uric acid, the grandfather, grandmother, great-uncle, six uncles, four aunts, and a cousin, all had had attacks of gravel, or had been cut for stone.

It seems to me not very improbable that hereditary tendency lies at the bottom of the regional distribution, and largely accounts for the peculiar geographical localities of stone. Generation after generation growing up in the same region of country and intermarrying would naturally reproduce and intensify any such physical trait as a tendency to stone. I am aware that it has been claimed that strangers going to Norwich have developed stone, having shown no tendency to it in their own land; but it would take a large array of such facts to constitute anything more than a coincidence.

In former years of slow locomotion, the few who emigrated married others with different tendencies, and so failed to spread the habit, or married others with like tendencies, and thus established new areas of stone formation.

Food, drink, and surroundings may have intensified or modified these natural tendencies more or less, but that the essence of the geographical distribution of stone (primary acid stone) lies in intensified and reduplicated hereditary predisposition seems to me at least plausible in lack of a better general explanation.

With modern improvements in rapid transit, and facility and cheapness of locomotion, it seems at least possible that the centres of stone formation may be somewhat broken up, and by more general and mixed marriages the disease become more extended in geographical area, but less active.

[1] Lancet, January 5, 1883, p. 6.
[2] Hereditariness of Stone, Lancet, February 10, 1872, p. 204.

NEURALGIA OF THE NOSE AND PHARYNX.

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IN looking over various works treating of the neuralgiæ in general or in detail, the entire neglect of nasal and pharyngeal manifestations, or the greatest variation of opinion concerning them, was immediately apparent.

Dr. Anstie describes a "rather common and extremely troublesome" form of pharyngeal neuralgia, occurring usually in hysterical females, accompanied by one or two painful points in or behind the tonsil, pains radiating into the tongue and along the course of the carotid, with the accumulation of much thick mucus and reflex muscular movements. Dr. J. Solis-Cohen considers the affection "rare and its causes obscure." Dr. Morell Mackenzie quotes Tuerck as describing six cases, but thinks some of them approach more nearly to simple hyperæsthesia. He himself has seen many instances of the disease in women between the ages of twenty and forty, gives no detailed account of the symptoms, praises scarification should there be hyperæmia, and recommends the local use of tincture of aconite in all cases. Dr. Elsberg, in an essay on "Sensory Neuroses of the Throat," states that he has met with nine cases of neuralgia in fifty-eight of sensory disturbance, and adds that "true neuralgia unquestionably occurs."

My own experience is limited to the following five cases, with a sixth still under observation. I am inclined to believe that Drs. Mackenzie and Anstie considered the morbid sensations so often complained of by women as typical neuralgia, or they would hardly have spoken of them as "common" or "troublesome." True neuralgia, especially of the earlier periods of life, can be relieved or controlled; subjective nerve symptoms depending so often upon the mental state of the patient, yield but slowly, if at all, to our best-directed efforts.

CASE I.—Mrs. A. C., æt. 40. Her hereditary history is excellent, and she claims to have been in good health until some years after marriage, when

she had become much reduced in strength by a quick succession of pregnancies and overwork. She has suffered for the last six months—she applied to me in December, 1882—with frontal pain and earache, fulness in both nostrils and darting pain in the post-nasal region. There was no discharge. Examination showed a reddened, tumefied nasal mucous membrane. The use of the probe caused sneezing and an increase of pain in all the parts complained of. There was tenderness in front of the ear, and at the emergence of the supra- and infra-orbital nerves, but the region over the frontal sinus was insensitive.

CASE II.—Miss A. B., æt. 15, anæmic and extremely nervous. Hereditation good. She had an attack of chorea, due to fright, at the age of twelve, from which she recovered after three months' treatment. Menstruation set in at the age of fourteen, and has been regular ever since. She came to be treated for catarrh and earache of one month's duration. She complained of obstruction of the left nostril and violent paroxysmal pain, which seemed to dart from the middle ear into the left side of the nose. There was considerable tumefaction of the mucous membrane covering the middle and inferior turbinated bones of that side, with hyperæsthesia and some redness. The parts were free from secretion, but she spoke of a discharge "like water" when the pain was at its worst. The auditory canal was normal and not sensitive; membrana tympani perfect. The teeth of the upper jaw were much decayed. There was a sensitive point over the infra-orbital foramen, and one on the side of the nose.

CASE III.—Mrs. P., æt. 50. No family history obtained. Her sister, however, has been in an asylum under treatment for insanity—attributed by the patient herself to "womb disease." Mrs. P. has been under my observation for the past three years, during which time she has exhibited a variety of symptoms fairly attributable to the menopause in a patient with a neuropathic tendency. She had the first attack of trifacial neuralgia two years ago, and has suffered two outbreaks since, always accompanied by the same manifestations: lachrymation, severe conjunctivitis, photophobia, dryness of the left nostril with inability to breathe through that side, and the occurrence of a profuse serous discharge with the subsidence of the attack. Examination during two attacks has shown a tumefied inferior turbinated bone. The use of the probe caused a distressing attack of sneezing. During the interval her nose is perfectly clear.

CASE IV.—Miss S. W., æt. 26. Paternal antecedents good. Her mother, three male members of whose family have died of apoplexy, suffered with migraine in early adult life, but has recently had, apparently in its stead, three severe attacks of neuralgia of the lumbar plexus. Miss W. developed trifacial neuralgia of a severe type at the age of twenty-one, after a period of much mental and physical strain. During her last attack, I noticed a small, circular, hyperæmic, and extremely sensitive elevation on the left anterior palatine fold, red and painful malar and mental points with grayness of the eyebrow and hair of that side. Articulation and deglutition were difficult, the patient declaring her muscles stiff, living on liquid food, and maintaining an almost absolute silence. This condition lasted three days.

CASE V.—Mrs. W. S., æt. 60, ignorant of her family history, was seen by me, in consultation, on September 26, 1882. She was stout and well preserved, with no indication of senile decay. For the previous six weeks she had had most excruciating paroxysms of pain, at intervals of five or ten minutes, throughout the entire day and night. Large doses of morphia had given her an occasional respite. She described the pain as beginning in the throat, darting into the ear, and down into the neck. Each paroxysm (and I witnessed a number) was accompanied by involuntary contractions of the facial muscles. Gastric irritability, due to the morphine, interfered greatly with my examination. I found the parts normal, with the exception of a bright red spot on the left anterior palatine fold, pressure upon which promptly caused an attack. I repeated the manipulation several times with the same result. Treatment, which will be discussed below, relieved her promptly, but a recurrence took place four months later of a much milder type.

The treatment of Cases I. and II. embraced an alkaline spray to satisfy the patients that the catarrh was being attended to, and the administration of gelsemium in small, but oft-repeated, doses until full physiological effects were produced, and then keeping them influenced for two or three days longer. Case III. was put on the same treatment, without the spray. Duquesnel's aconitia, in the dose of one two-hundredth grain, gradually increased until the well-known tingling and numbness were complained of, was employed in Cases IV. and V. with admirable results. The average time of treatment of the neuralgia proper was about ten days, a tonic treatment being instituted afterwards. The nutritive disturbances occurring in these cases were of the utmost interest. The frontal pain or fulness, hyperæmia or tumefaction, or both, and the secretory changes may be fairly attributed, I think, to the disturbed innervation—to the influence, perhaps, of the so-called "vaso-motor" and "trophic" systems.

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A CASE OF EXTENSIVE BURN, UNHEALED AFTER SIX YEARS, PERMANENTLY CURED BY MASSAGE AND SKIN GRAFTING.

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IN February, 1883, I was consulted by Miss L. P., of Va., as to the possibility of relieving an unhealed burn of about six years' duration, the history of which I give in her own words:

"I was burned on the night of the 11th of September, 1877, about 10 o'clock, by the explosion of a kerosene oil lamp. I had gone to my room; undressed; and was writing near a bureau on which

the lamp was placed. While writing I heard a spurt from the lamp and noticing a flare in the blaze, I immediately arose to my feet, and at that instant the explosion occurred, throwing the burning oil on my left arm and side and igniting my clothing. My father heard the explosion and my scream from his room, immediately beneath mine, and came to my assistance in a second or two. He attempted to tear my clothing from me, but, finding he could not do so, wrapped me tightly in a pair of woollen blankets, in order to smother the flames. This, of course, drew the burning clothing, saturated with hot oil, closely to my arm and side, though it at once extinguished the flame. He then carried me down stairs, and upon removing my clothing, it was found that I was very badly burned on the left arm from above the elbow to the ends of the fingers, and down the left side extending to the spine, and from the waist to a little below the hips. It was apparent from the first that the arm and hand were the most severely burned, the skin and flesh hanging from the arm in shreds, leaving the bone exposed in several places. The burns were then covered with lard and flour, and a sheet was wrapped around me. In this condition I remained for three hours before the arrival of the physicians, who administered chloroform to alleviate and deaden the intense suffering, removed the lard and flour, and applied linen cloths saturated with a mixture of linseed oil and turpentine. By the time the effects of the chloroform wore off I was greatly relieved by this application. This treatment was continued, and was the only one used for a long time. In a few days the sores commenced suppurating, and the flow was so excessive that daily renewal of the cloths, and redressing was necessary; to be able to endure this, I had to be chloroformed, and for one hundred and twenty consecutive days I was put under the influence of it to have the operation repeated. The only position I could occupy was on my back; thus lying on the sore on the back in a single bed in the centre of the room, the arm being placed on a pad and suspended by a cord from the ceiling. The arm was very red and swollen to three times its natural size, while the hand seemed to be one entire scab. It was three months before there was any evidence of the burns on the body healing, but the hand and arm still remained obstinate, without any signs of improvement. Some time in January, 1878, the treatment was changed, and vaseline was used as a salve. The sores on my body began to heal, and by the first of March I was able to be taken up and put in a rocking-chair. This was of great benefit to the burns on my back, relieving the pressure, and they healed so rapidly that by the first of July I could wear a dress, by leaving out the left sleeve.

"On the 4th of July, I went to Lynchburg, Va., to consult Dr. ——, who examined the hand and arm thoroughly and prescribed cauterizing with nitrate of silver. I returned home and attempted to follow his prescription, but it was so painful and seemed only to inflame and aggravate the sore, that I gave it up in a week or two. In December, 1878, I went back to Dr. ——, and placed myself under his care until I should be cured. I cannot remember the various remedies he used the first month; there were a number of powders, salves, etc., none of which suited the hand at all. At last he commenced using a lotion, the name of which I never knew, giving at the same time internally, Fowler's solution of arsenic. The hand and arm at once began to heal, and by the middle of May he discharged me, thinking the cure permanent. I came home, but it was only a short time before the hand began to burn and break out in small sores, and by the first of July it was almost as bad as ever. I immediately returned to Dr. ——, but nothing he did seemed to check the spreading of the sores, and in October of 1879 I came back home with the arm almost entirely healed, but the hand a perfect mass of sores. In this condition it remained for one year, when my general health became so bad from the constant drain on the system that on the 16th of October, 1880, I went to Richmond, Va., to consult a distinguished surgeon of that city, who, after an investigation of the case, seemed to think he could permanently relieve me. He had the hand poulticed until all the thick scab was removed, then applied absorbent cotton saturated with solution of hydrate of chloral, twenty grains to a pint of water, The hand healed rapidly under this treatment, and I began to strengthen, taking, as a tonic, tincture of iron with strychnia, etc.

"I left Richmond on the fifteenth of December, and once more flattered myself that my hand was cured, but as soon as the warm weather set in, it commenced breaking out as before. I consulted my Richmond physician by mail, and he prescribed a continuation of the chloral and tonic, but as these failed to have any effect, I went back to him in January, 1882, but he did not seem to think much else could be done for it, and, had I urged it, would have readily assented to its amputation as the best method of relief. I returned home and continued the treatment with the chloral and cotton until January, 1883, when I went to Louisville, Kentucky, for treatment."

When I took charge of the case a careful examination revealed the following condition. The arm and forearm from above the elbow to the wrist showed large cicatrices in many places adherent to the deeper structures and even to the bone. The elbow could not be straightened beyond an angle of one hundred and fifty degrees, due, in all probability, to ossific deposit in the olecranon fossa, which had no doubt been exposed by the burn. The hand, which was flexed at the wrist, was healed over the dorsal surface, the skin presenting a shiny, glistening, and unhealthy appearance. The finger nails were like rams' horns, mere masses of horny tissue, piled upon the ends of the fingers. Upon the palmar surface of the hand and several of the fingers were large suppurating sores, which had remained in the same condition for more than a year. At times they would heal a little, only to break out again. The little and third fingers were very much flexed by cicatricial contraction, and the width of the hand very much narrowed by the approximation of the thumb and little finger. The circulation in the fore-

arm and hand was exceedingly poor, the pulse at the wrist being scarcely perceptible. Her general health was bad, appetite poor, countenance pale and anæmic. She suffered greatly with a burning sensation in the hand.

I determined to pursue the following line of treatment: 1st, to improve the circulation and develop the muscles by thorough massage; 2d, after thoroughly cleansing the suppurating surfaces by a poultice, to insert numerous skin grafts; 3d, to divide the cicatricial contractions; and, 4th, by daily manipulation gradually to restore the use of the joints. Placing her in charge of a skilful manipulator, I had the satisfaction of finding a most marked change in two weeks, the pulse becoming strong and full, the skin taking on a much more natural appearance, and healthy nail tissue showing itself at the roots of the nails. I then applied a poultice for twenty-four hours, clearing off all the dried scabs, leaving a raw, granulating surface upon which I inserted eight or ten grafts taken from the skin of a young rabbit. Several of these adhered, forming little islets of skin. I next inserted a few grafts from the human skin: but chiefly relied upon grafts taken from the inner membrane of a perfectly fresh hen's egg. A number of these were inserted and many of them adhered, so that in a few weeks the entire raw surface was covered with sound cuticle, and the entire surface of the hand presented a much more healthy appearance. The horny masses upon the extremities of the finger were about half pushed off by the growth of the new and healthy nails. As the cicatrization proceeded, Madame Lager followed it up by her massage, even developing the interossei muscles.

With the return to the normal and healthy condition of the tissue, the sense of constant burning which had before been so annoying and depressing, entirely disappeared.

When the surface had completely healed, I divided the cicatricial contractions, strapping the fingers to a dorsal sole-leather splint, so as fully to extend them, until the raw surfaces left by the burns should heal. This was hastened by grafting as before, and in a few days the splint was removed. It was found necessary to divide a second time the contraction of the little finger, and in order to lessen the tendency to subsequent cicatricial contraction the cut was filled with a sponge graft. Although this healed over much more slowly than the others yet it answered the purpose well.

Systematic and regular manipulation of all the joints was then practised and the electrical stimulation of the muscles added, so that gradually the use of the hand was recovered. She passed through the hottest part of the summer without any tendency to break out as it had done every year previously, and she was sent home about the middle of August with instructions to continue the regular manipulation of the joints with the daily use of the battery, with which she was provided. October 15th, she writes that the hand continues to strengthen daily and that she can do anything she wishes with it.

The first point to be noticed in this case is the marked benefit to be ascribed to the massage treatment, which, by stimulating the circulation of the limb, so improved the nutrition of the part that much more healthy tissue was formed, as shown by the growth of natural nails and the disappearance of the shiny, glistening look of the skin.

To the poor circulation no doubt was due the constantly recurring ulceration of the surface.

2d. The use of the three forms of skin grafts gave the opportunity of testing their relative merits. Of the three, I much prefer the egg membrane, as being more readily obtained, and one egg, which must be warm and fresh, will supply any number of grafts needed. A large proportion of those inserted adhered, forming islets, which by their coalescence covered over the entire surface.

3d. The recovery of the use of the muscles and joints was greatly promoted and hastened by the daily manipulation and the use of the faradic battery.

LOUISVILLE, KENTUCKY, October, 1883.

ON A METHOD OF ABDOMINAL TRACTION, AND ITS APPLICATIONS.

BY HENRY HARTSHORNE, M.D.,
OF PHILADELPHIA.

SOME time since, I exhibited before the College of Physicians of Philadelphia a simple apparatus for abdominal traction; having especially in view its use as an aid in producing artificial respiration. My attention had been called to the incompleteness of the means commonly employed for that purpose, by their failure in two cases of drowning which I was so unfortunate as to witness at Atlantic City, N. J. Easy experimentation on my own person satisfied me, as it may anyone, that Sylvester's method (the best in use) has very little *compulsory* power in expanding the lungs. One may, without the slightest difficulty, effect *expiration* while the arms are raised backward and far over the head, and *inspiration* while they are being brought down and pressed laterally against the ribs.

Considering the large amount of force readily exercised by the diaphragm in what is called "abdominal" as distinguished from "thoracic" respiration, it is reasonable to suppose that, in asphyxia from any cause, respiration may be prompted and assisted in renewal by *drawing the viscera away from below the diaphragm.* Such is the intention of the apparatus which I now propose to describe. It consists, first, of a tube or pump, not unlike, in shape and size, to an ordinary enema syringe of the old-fashioned kind; holding, however, somewhat less than a pint, for lightness; and having a cross-piece at the handle, for greater firmness in traction. It is constructed as a *two-valve* exhausting pump; so that, by drawing upon it again and again, a firm hold may be taken and kept.

Secondly, the tube is adjusted to a large cup or metallic bowl; designed to be applied to the abdomen. I have had two sizes of bowl made, so as to suit bodies of greater and less width and stature. One bowl is seven and a half inches across its outer rim, and five inches deep; the other is six inches across, and three and a half inches in depth. Either may be affixed to the exhausting pump for abdominal

traction. My first thought was to use a *one-valve* pump, so as to *alternate* rapidly the elevation and depression of the abdominal walls; but it was soon found that, unless with a pump so large as to be

Scale one-fifth inch = 1 inch.
Abdominal Tractor.

unmanageable on account of its weight, the lifting of the viscera by one draught of the pump will not be sufficient to answer a good purpose. By trial on a living body, I find that the exhausting pump and bowl above mentioned will take a very strong hold of the abdomen, and exert a great lifting action upon its contents.

No case of drowning or other asphyxia having come under my observation since the instrument was constructed, I have had so far to content myself with its trial upon the living body, with normal respiration, and some applications of it to dead subjects. The latter, however, on account of the bodies having been semi-solidified by preservative injections, were not satisfactory in determining what such traction may do towards effecting artificial abdominal respiration. This yet awaits an opportunity of fair trial. The least that may, in my judgment, be expected of it is, that it may render valuable aid to the Sylvester method; just as *counter-extension* does to *extension* in the reduction and treatment of fractures. The two methods may be combined with perfect facility and convenience.

More positive ground of confidence appears to me to exist, in regard to the application of a similar mode of abdominal traction to the treatment of *strangulated hernia* and some forms of *intestinal obstruction*. This is not a new proposition. Authors mention it as having been put in practice by Anton Nuck, the eminent anatomist and surgeon, professor in the University of Leyden, near the end of the seventeenth century. It is said to have been a method sometimes in use by Russian practitioners; and allusion to it was made in an English medical journal within a year or two, the reference to which has recently escaped my search.

Slight reflection will show that the reduction of a femoral or inguinal (of course not an umbilical) hernia must be promoted by forcibly abstracting the mass of the contents of the abdomen in a direction opposite to that of the protrusion. This is the *rationale* of the common expedient of raising the patient's heels high above his head, which I have known to be quite effectual in practice.

Also, it is evident that if, in a case of *intussusception*, we could seize either the received or the receiving portion of the gut, and draw upon it, we should almost certainly relieve the invagination. While this is not *sure* to be done in every case by abdominal traction, it affords a greater *probability* of such a result than any other mode of treatment without laparotomy, and hence it is worthy of careful trial.

My apparatus was made by A. H. Wirz, of Cherry Street, Philadelphia, and will be at the service of any practitioner who may desire to use it in fitting cases.

GERMANTOWN, PHILADELPHIA.

HOSPITAL NOTES.

NEW YORK EYE AND EAR INFIRMARY—SCHOOL OF OPHTHALMOLOGY, OTOLOGY, AND LARYNGOLOGY.

(Aural Service of DR. SAMUEL SEXTON.)

Reported by ROBERT BARCLAY, M.D., Assistant Surgeon.

FOREIGN BODIES IN THE EXTERNAL AUDITORY CANAL.

THE frequency with which troublesome cases of foreign body in the external auditory canal are met with, and the great importance of keeping in mind the anatomical relations of the parts to these intruders lest harm should result to the organ of hearing during efforts at removal, makes the subject one of particular interest to the general practitioner as well as to the specialist. Thanks to the large attendance at the aural clinic of the Infirmary, examples of this kind are numerous enough to give a very fair idea of the subject. In presenting this matter, some of the following cases were shown to the students, and Dr. Sexton offered such practical remarks as the different cases suggested.

Foreign bodies are not often met with in the ears of very young infants, unless put in by playmates—a difficult feat on account of the collapsed state of the canal in these subjects. Older children, however, frequently introduce them themselves. The entrance (meatus) to the canal is often, especially in children, naturally contracted by the elastic fold of its posterior border which comprises that portion of the cartilage forming the bottom of the concha and the beginning of the canal. When foreign bodies are slipped beyond this constriction, they are indefinitely retained, since they cannot fall out again of themselves, nor can they be removed by jarring the patient's head. In syringing for their removal, escape at this point is difficult, and should, therefore, be facilitated by drawing back the auricle, and completing the extraction by means of the hook or forceps. Illumination by means of the head-mirror is a *sine qua non*.

Piece of chalk in ear of child aged three years, remaining two days; no morbid symptoms; removed with forceps.

L. S., aged three years, came to the Infirmary August 7, 1882.

On the afternoon of August 5, the patient pushed a

small square piece of chalk into the right external auditory canal. The mother of the patient subsequently attempted its removal, and, after failing, brought the child to the Infirmary. Examination showed a white body in the right external auditory canal.

Dr. Sexton, with the aural foreign-body forceps, easily removed this white body, which proved to be a piece of chalk. No morbid symptoms were reported, and there were no physical signs to indicate any injury to the ear.

Half bean in ear of boy aged five years and seven months; ineffectual attempts at removal; under anæsthesia, bean removed in fragments; painful mastication.

G. F. F., aged five years and seven months, came to the Infirmary, August 26, 1882. On August 25, the patient, while at play, put half a Lima bean into his left external auditory canal, and, in attempting to remove it with his finger, pushed it farther inward. Shortly afterwards, he attempted to remove it with a pin, and pushed it still further from the meatus. The patient then went to the family physician, who tried in vain to remove it with instruments. He subsequently made another unsuccessful attempt the same day. He then gave the mother a liquid which he ordered her to drop into the patient's ear as fast as it evaporated, telling her to return with the patient the following day. Instead of doing so, she came to the Infirmary, August 26. There had been no discharge from the ear. It was found unadvisable to attempt removal of the foreign body on account of the exceedingly restless condition of the patient.

On August 28, after the patient had been anæsthetized by the house-surgeon, Dr. Sexton removed the three fragments of bean, the bean having previously been broken. These pieces of bean were quite soft.

On August 31, the canal was tender and red, and the patient irritable. Mastication was painful. The fact that the lower molars on both sides were carious was significant.

The patient improved under treatment, and was subsequently discharged.

Round button in ear of girl aged five years, remaining two months; ineffectual attempts at removal; removal accomplished under anæsthesia.

B. S., aged five years, came to the Infirmary January 8, 1883. Two months ago the patient put a round china button into her left external auditory canal, where it has remained ever since. Attempts were made at one time by the family physician to remove the foreign body, but proved unsuccessful, and caused great pain. Examination showed a foreign body in the left external auditory canal.

The patient having been anæsthetized by the house-surgeon, the foreign body was removed by foreign-body forceps, and proved to be a round china button. No harm was done by the operation.

Cotton-wool wad in ear of man aged sixty-six years, with cerumen; removal with syringe; deafness relieved.

J. G., a carpenter, born in Germany, aged sixty-six years, came to the Infirmary June 4, 1883. The patient has been deaf in the left ear for the past six months, and says he knows no cause for it. He has experienced no pain, and the ear has not discharged. At the time he first noticed this deafness, he swabbed the ear once with water on a swab of cotton, and, as he says, does not remember having left any of the cotton in the canal after drying it. The deafness subsequently increased in the left ear. The right ear gives no abnormal subjective symptoms.

Examination showed a moderate amount of cerumen in both canals, which are large. Syringing brought away the cerumen, and from the left canal a small wad of cotton also. Relief was complete.

Bug in ear of woman aged twenty-one years; remaining one-half day, with intermittent tinnitus; removed with syringe.

M. C., aged twenty-one years, came to the Infirmary June 11, 1883. This morning, on awakening, the patient says she "felt the legs or wings of something moving around in her right ear." This sensation alternately ceased and recurred. She has had at no time any subjective tinnitus aurium, nor impairment of hearing.

Examination shows a small black body at first on the posterior inferior quadrant of the membrana tympani, but later on the anterior inferior, as it has changed its position. Syringing brought away the dark body, which proved to be a small bug.

The alternate disappearance and recurrence of tinnitus aurium, corresponding to the rest or movement of the insect, are significant; and the patient could hear perfectly well even when the insect was at rest or moving upon the membrana tympani.

Flies in ear of patient aged seven years, with otorrhœa following scarlet fever; removal with syringe.

H. V., aged seven years, came to the Infirmary July 23, 1883. Four years ago the patient had scarlet fever, lasting for about five weeks, which was followed, for one or two weeks, by a discharge from both ears. At the end of that time, it ceased in the left ear, but has continued in the right to the present time. The discharge is very offensive. Some slight impairment of hearing was found in the right ear. Examination showed the right external auditory canal filled with pus. On syringing, three flies were removed with the pus. A polypus was now visible at the inner end of the canal.

From this time, the patient improved; the polypus was removed; and under the treatment subsequently maintained, the patient finally recovered.

Cases of insects in the ear with otorrhœa are seen very frequently at the infirmary. The one cited above is a fair type of this class of cases.

Two cherry-pits in ear of girl aged four years; one removed by mother with hairpin; the other removed at Infirmary with syringe and forceps.

L. S., aged four years, came to the Infirmary August 13, 1883. The patient's mother stated that she removed from her right ear, two weeks ago, a cherry-pit. While cleaning her right ear yesterday morning, August 12,

the mother inflicted pain, of which the patient complained; this pain has continued ever since then.

Examination showed another cherry-pit deep within the right external auditory canal, with congestion of canal walls. The left ear was normal. Syringing brought the cherry-pit to the vicinity of the meatus, and Dr. Sexton's assistant, Dr. Adolph Rupp, removed it with the foreign-body forceps.

Discoid pencil-tip in ear of boy aged eight and one-half years, remaining six days; great pain; repeated ineffectual attempts at removal by several physicians; wound of drum-head; removal under anæsthesia with improvised hook and forceps.

N. C. M., aged eight and one-half years, residing in Saugerties, N. Y., came to the Infirmary October 25, 1883. On October 19, the patient put a foreign body into his right external auditory canal. His father could himself discern the foreign body lying there, and after vainly attempting to extract it, took him the same day to the family physician. Attempts were made by him to remove it with an earspoon. The attempts were unsuccessful, and caused immediate and subsequent pain. On the next morning, October 20, the attempts at removal were repeated, an earspoon and forceps being employed. The attempts were futile, and caused the patient great pain, which now continued, with intervals of relief. Glycerine was ordered to be put into the canal whenever the patient complained. This order was obeyed, and glycerine was applied thrice during the day and once during the night. On the following morning, October 21, the patient was taken to Albany, N. Y., where a well-known surgeon was consulted, and given control of his case. He first syringed the ear very persistently, but in vain, and then attempted removal with an earspoon and forceps. The attempts were attended with pain, hemorrhage, and failure. The seance lasted one hour and a half, and no anæsthetic was employed. After these unsuccessful attempts, this physician advised the patient's father to permit no one to use instrumental aid, or attempt removal, but to drop sweet oil and chloroform into the canal, and that the foreign body might escape without further interference. Another physician in Albany saw the patient on October 22, and made unsuccessful attempts to remove the foreign body, using syringe and forceps, causing pain, which subsequently became constant.

The patient was then brought to New York, and came to the Infirmary on October 25 seeking relief. Examination showed that he had had nasal catarrh for several years, and that he was a mouth-breather. Both of the superior six-year molar teeth were carious. The left membrana tympani was dull and humid in appearance; the canal of this side contained some dried cerumen.

The right external auditory canal, on being examined, showed a foreign body embraced rather tightly in the swollen tissues, and smeared with blood, epithelium, etc., from previous efforts at removal. Its size and shape could not be determined, although, from the touch of the probe, it seemed to be very hard. It lay well down in the cul-de-sac beyond the isthmus of the osseous portion of the canal. The gentleman who first saw this case at the Infirmary made an attempt at removal by syringing, without avail, however. Dr. Sexton had the patient anæsthetized, and, after cleansing the parts by light syringing and subsequent drying with cotton-wool, proceeded to employ his own foreign-body forceps for the removal of the intruder. It was found, however, that, after seizure by the forceps, although very considerable force could be exerted, so large was the bite of the instrument (the part seized being, as it afterwards appeared, the circumference of the foreign body) that its grip was not sufficient to insure success. A hook was then improvised by bending a silver probe near one extremity, and this was passed sidewise between the object and the superior wall of the canal, then turned, so that its hook engaged against the inner surface of the substance to be removed, when very considerable traction was made, with the result of bringing what appeared to be the broken-off ivory tip of a lead pencil into the cartilaginous portion of the canal, whence its removal was completed by forceps.

It is worthy of remark that it was stated to the operating surgeon that the foreign body was an ovoid or spheroidal pebble, which was misleading to the extent that the forceps were unnecessarily abandoned, since, had it been known that the object was a flat section of a bone or ivory pencil-tip, a little manipulation would have soon discovered the flat-sided surfaces, which could have been easily held in the grasp of the forceps. It was determined, when operating, to bring the foreign body away even at the risk of considerable laceration of the wall of the external auditory canal, which is well known to heal very readily.

Slight hemorrhage followed the operation from the laceration of the canal; but, unfortunately, it was found that the numerous attempts previously made had resulted in wounding the middle ear, and it was deemed unwise to send the patient home until he had recovered from the results of this injury. A letter from his parents, written in November, reports no further trouble since their return home.

Stone in ear of boy aged seven years, remaining six months: ineffectual attempts at removal; removal with syringe and curette.

O. S., born in Germany, aged seven years, came to the Infirmary December 3, 1883. Last summer a playmate put a small stone into the patient's right external auditory canal. It caused some pain at the time; and whenever he tried to lie with his right ear upon the pillow, the pain became intolerable. On November 30, his mother, in trying to clean his right ear with a hairpin, felt it scratch the stone. At the same time, this caused the patient such pain that he cried out. His mother, after attempting in vain this morning, December 3, to remove the stone with a hairpin, and having hurt the patient a great deal, brought him at once to the Infirmary for relief.

The patient states that, except when the stone is interfered with, he experiences no distress. He hears with his right ear a low voice at a distance of fifteen feet.

Examination showed the external auditory canals to be rather large, affording an unusually distinct view of the passage. The right one contains a little cerumen, but the stone can be plainly seen just beyond the lumen. The patient seems to be of a courageous nature, enduring manipulations very well, and Dr.

Sexton decided to operate without placing him under an anæsthetic.

At first, the hooked curette, as made by Mr. Ford,[1] was employed, but a slight movement of the child's head caused the pebble, which lay loosely in the passage, to be carried further inward; the foreign-body forceps were then employed, with a similar result, the object being pushed a little further inward with each attempt. The stone now lay on the verge of the isthmus, and further attempts would have resulted in carrying it over into the cul-de-sac, from which place its removal would have been far more difficult. The auricle was now drawn well backward and outward, and a strong but small stream of warm water was thrown from the syringe underneath the stone; the return stream carried it somewhat outward, and a second stream brought it out until it met the slightly constricted lumen, whence it was completely dislodged with the curette. It proved to be a stone, light colored, very smooth, somewhat ovoid, but flattened. The wall of the canal was found slightly abraded at the isthmus. The membrana tympani was intact and healthy, though slightly reddened from the effects of the syringing.

On December 10, examination showed a little cerumen in the canal, which is rather greater in quantity than ordinary. The points of abrasion are healed. There is no irritation remaining in the canal. The membrana tympani is intact and normal.

REMARKS.—Some practical suggestions were made by Dr. Sexton to the class in regard to the removal of foreign bodies. There should never be undue haste or precipitation in the efforts at removal: the disadvantages of a neglect in respect to this were shown in some of the cases brought to notice. In young and restless children, it was quite often necessary to administer an anæsthetic before beginning operative procedures. The operator should first carefully ascertain the exact location of the object and its size and character; and as to this matter, the statements of the patient or friends should not be implicitly relied on, as they were frequently misleading; sometimes the foreign body was found to be quite different from what it had been stoutly asserted to be.

Regarding the choice of instruments to be employed, Dr. Sexton advised that when the patient was old enough to keep quiet, and the object was found just within the lumen, the hooked curette before alluded to was usually alone sufficient; but even in such a case as this, if the foreign body had been started further in on being touched it was well to direct a smart stream of warmed water into the canal, well to one side of the stranger, if possible, and this should be quickly followed up until successful, not forgetting that the child must usually be firmly held by a competent assistant during the operation. Should the foreign body, however, be found well down in the cul-de-sac and impacted, as is too often the case, from previous unsuccessful efforts, syringing may be unavailing; then the foreign-body forceps will often be useful—indeed they are of the greatest value when the object is impacted anywhere in the canal, since, when held in their bite, very great traction can be made. When the hard, or smooth and hard, nature of the object prevents a secure hold being thus obtained, the hooked curette is the more serviceable instrument, for it can be, in nearly all cases, forced between the object and the walls of the canal, when, from its firm hold—the teeth being set so that, on withdrawal, they become fastened or firmly impinge against the object—effective traction can be made. Of course, when a firmly impacted body has once been started, efforts should not be relinquished until successful, even though the canal be considerably lacerated, for such wounds are generally found to heal very promptly. When the foreign body lies in contact with the drumhead, it requires great tact and dexterity to avoid injury of that delicate structure, but in the great majority of instances the operation may nevertheless be safely performed. In these difficult cases of deep impaction, it is often found that the foreign-body forceps will grasp hard and smooth objects more successfully than would be supposed, and patient effort in this direction should not be too quickly relinquished. The surgeon must *under no circumstances try to fix the forceps without distinctly seeing what he is about.* If the parts are moistened with blood, mucus, etc., this should be carefully wiped away before proceeding. Sometimes the bleeding may be checked by light syringing with *hot* water before wiping the parts. Should the operator carelessly poke these forceps about in the neighborhood of the drumhead in efforts at seizure, he may easily lacerate that membrane.

[1] Of Caswell, Hazard & Co., New York.

MEDICAL PROGRESS.

ADMINISTRATION OF MEDICINES THROUGH THE AIR-PASSAGES.—On November 13, 1883, DR. SANDRAS read a paper before the Académie de Médicine on "Antimicrobial Medicamentous Inspirations or Inhalations." His very interesting experiments have led Sandras to hope that medicamentous substances introduced into the respiratory apparatus act either directly and locally by immediate contact with the injured portions of the organs, or indirectly on the nervous system and on the whole organism, after having gotten into the circulation through the lungs.

In concluding his paper, Sandras suggests that this is a new way opened for the introduction into the organism of medicines which the stomach cannot retain in certain cases. This method has already given very happy results, both in diseases of the respiratory and of other organs. The medicines are administered by spray from an inhaler.—*L'Abeille Méd.*, January 14, 1884.

A BABY WITHOUT ARMS OR LEGS.—The *Enciclopedia Medico-farmaceutica* states that this teratological case is now interesting the profession in Madrid. It is that of a little girl, five months old, which was born without arms or legs. The thoracic and abdominal cavities are perfectly formed. When born, it seemed doubtful whether it could survive, but at present it is in a very healthy condition. Its first teeth have just appeared, and it weeps and laughs just as other children.—*Progrès Méd.*, February 2, 1884.

PREVENTIVE INOCULATION WITH ATTENUATED CHARBON-CULTURES.—At the meeting of the Académie des Sciences, on December 3, 1883, M. CHAUVEAU presented

a note on preventive inoculation with charbon-cultures attenuated by the method of rapid heating. M. Chauveau's studies on this subject, with the assistance of M. Wosnessenski, especially as regards the respective *rôle* of heat and oxygen in the attenuation of virulent cultures, have demonstrated the enormous preponderance of the first of these agents and the possibility of producing, by the exclusive use of rapid heating, attenuated cultures practically utilizable for preventive inoculation.

Between May, 1882, and September, 1883, M. Chauveau has inoculated a large number of sheep with his special culture liquids, the spores of which were attenuated by heat at 176° F. None of them have died, and he has assured himself in every case, by a third culture, that the harmless spores preserved their activity. But it is still more interesting to know whether these sheep really acquired an immunity, whether the inoculation had exercised a preventive influence upon them. Of this there is no doubt, for revaccination with very strong virus had no effect.

It is certain that all the subjects have not the same resistance; the greater part of those in which the first inoculation produced only slight effects were highly susceptible to the second inoculation with strong virus: those, however, which were made sick by the first vaccination were not susceptible. Chauveau now uses Pasteur's method of double inoculation, which is as follows: Instead of heating *en masse* all the *vaccinat* (the liquid for inoculating) contained in each receptacle, he makes two equal parts, one of which is heated to 176° F., and the other kept as it is. The latter is called the second vaccine. The first—that heated—was tried on ten sheep; none of them died. The second experiment was unavoidably delayed, but only one died. Three weeks afterwards the remaining nine were inoculated with very virulent blood, but with no bad effect. They had, therefore, acquired perfect immunity.—*Gaz. Hebdom.*, December 14, 1883.

PILOCARPINE.—M. HUBERT LAVRAND has recently made quite an extended study of the physiological and therapeutic action of pilocarpine.

Pilocarpine may be given in the form of the nitrate or hydrochlorate, by hypodermatic injection, in doses of gr. ⅙ to ½. Its double diaphoretic and sialagogue effect is the indication for its use. In affections commencing with a chill, in asthma and the dyspnœic attacks in emphysema, it is highly useful. Though it acts less rapidly than morphia as a sedative, the effect is more lasting. It may be employed as a useful adjuvant in the treatment of diphtheria.

Pilocarpine will sometimes arrest an acute pleurisy in the beginning, and very often has a favorable influence upon it. In ocular therapeutics it may take the place of eserine as a myotic, and may be employed by instillation. In acute nephritis, under the influence of pilocarpine the symptoms rapidly improve, and in many cases the affection is promptly cured. Pilocarpine has a beneficial action on uræmic accidents, whether puerperal or scarlatinal. Chronic parenchymatous nephritis is benefited by pilocarpine in all its stages, especially when there is uræmia; but the more recent the lesion, the more efficacious is the drug. It is also efficacious in chronic interstitial nephritis.

The only contraindication to the use of pilocarpine is an advanced cardiac lesion; it causes arythmia and a diminution of the arterial tension. It has been used successfully in a large number of cases of obstinate hiccough, in persistent neuralgic pains, and in alopecia; it is a powerful antidote against belladonna and atropia poisoning, and may be given, in these cases, in larger doses.

Rabuteau has lately shown that pilocarpine and ergotine are antagonistic, the first acting as a vaso-dilator poison, the second as an excitant of smooth muscular fibres.—*Progrès Méd.*, December 29, 1883.

SALICYLATE OF BISMUTH IN TYPHOID FEVER.—PROF. VULPIAN has recently shown the value of Desplat's study of the antipyretic action of the salicylate of bismuth in typhoid fever. In the hands of Prof. Desplats, this remedy has given very satisfactory results (see an abstract of his paper in THE MEDICAL NEWS, August 4, 1883, p. 124). In doses of ℈iv to ℥ijss, administered several times a day during the course of the disease, it seems to have a decided abortive action; and after the disease has fairly set in, it lightens the symptoms and moderates the gravity of the affection.

It is difficult to determine its precise mode of action. Does it act on the ferments contained in the blood and certain viscera? Or does it act on the spinal centres and moderate the temperature? These points are not definitely determined, but its antiseptic action in organized ferments is very powerful, as shown by experiments in the laboratory, which permit us to think that it acts on the materials contained in the intestines of typhoid fever patients; for its insolubility permits it to reach the lowest portion of the intestinal tract without being absorbed. Its action corroborates the ideas of Klebs and Eberth as to the two distinct stages in the evolution of typhoid fever; the first characterized by an intestinal lesion purely local, and due to the development of micro-organisms; and a second, of general auto-infection, with localization in the different organs.—*Progrès Méd.*, December 29, 1883.

MALFORMATIONS OF THE HEART IN THEIR RELATIONS TO THE PATHOLOGY OF CYANOSIS.—At the close of a paper on this subject, DR. DAVID NEWMAN, of Glasgow, draws the following conclusions: It appears that the most important cause of cyanosis is obstruction to the flow of blood to or from the right side of the heart, and that the degree of the discoloration depends upon—

1. The time at which the obstruction became sufficient to give rise to cyanosis. The earlier the symptoms appear the more marked are they likely to be.

2. Free communication of venous and arterial blood in so far as it determines the resistance to the flow of blood to or from the right chambers of the heart, and the amount of blood carried to the lungs.

3. The amount of compensation established by a patent foramen ovale, or ductus arteriosus, or by a collateral pulmonic circulation.

4. The nature of the vessels and integuments—the thinner the vessels and other textures the deeper the hue.

5. The degree of hypertrophy of the right ventricle and the condition of the tricuspid valves.—*Glasgow Medical Journal*, February, 1884.

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THE TREATMENT OF DIPHTHERIA.

THE wide-spread prevalence of diphtheria, the necessary interest in the methods of treatment, and the remarkable contrariety of opinion on the subject of the remedies, are adequate reasons for the formal expression of our views. Obviously, it is our duty to occupy, as well as we may, a judicial position, to weigh the various methods in just proportion, and pronounce a judgment free from any personal bias. Methods of treatment—in the present state of the subject—must be judged from the clinical stand-point. Whilst pathological theories may direct therapeutical efforts, they cannot decide the relative merits of the various plans of treatment. Is there a specific germ? Is the malady first local, or do the local manifestations indicate systemic infection? Such questions must influence the application of remedies; but they cannot decide their value. From either point of view, the treatment of diphtheria must be local and systemic.

The remedies applied to the throat are directed to two ends; to destroy the germs of the disease; to check the spread of the exudation. Both purposes are usually effected at the same time; but not invariably, since some approved remedies have no action on bacteria, especially none on the process of pullulation.

As solvents of the false membrane, we have choice of several. We have the high authority of Mackenzie for regarding lactic acid as the most efficient. As there is no official dilute acid, the pure acid, weakened by the addition of water to the necessary point—about one in three—for dissolving the membrane, is painted over the affected area with a large camel's-hair brush, or is sprayed on. Next to this is lime-water, which may be applied by means of a large mop, or in spray, or, as has been effectively employed, by having the patient breathe the vapor arising from slaking lime. Papaïne, the digestive principle of the *Carica papaya*, has lately been used with striking results as a solvent of diphtheritic false membrane. It appears to be the best of this group of remedial agents, and, as it can have no injurious effect, may be used very freely. Solution of pepsine has also been effectively employed for this purpose.

Many other remedies are used to detach the false membrane. Steam assiduously applied is preferred to all other means by some skilful practitioners. Other agents are solutions of chlorate of potassium, tincture of ferric chloride, and these in combination. Unless the removal by solution, or the mechanical detachment of the membrane, is the preparation for subsequent applications, no practical benefit accrues, except in the case of laryngeal diphtheritis. The membrane removed, the surface beneath is then properly prepared for the action of parasiticides. Many of these are now in use. Sublimed sulphur has appeared to be very beneficial in some cases. Unless some sulphurous acid is formed, the nature of the service rendered by it is by no means clear. The application of sulphur, as, indeed, of all agents in the form of powder, is most conveniently and effectively done by means of an insufflator, which distributes the material uniformly over the surface.

There are several parasiticides of the phenol group which may be very advantageously employed topically. These are carbolic and salicylic acids, resorcin, phenoresorcin, chinolin, and some others. After the detachment of the false membrane, these are applied in solution or in powder to the affected area. A five per cent. solution of carbolic acid can be carefully painted over, or one per cent. solution sprayed on; the former method, when feasible, is to be preferred. Salicylic acid, finely pulverized, and sufficiently diluted, is more effectively used by insufflation, as it adheres more tenaciously, and the action is both more powerful and better sustained. Solutions of the acid, made by aid of biborate of sodium, can also be employed—dashed on by a suitable mop, or more carefully applied with the brush. Resorcin, properly diluted, well dusted on with the insufflator, is also an effective application. The relative utility of these remedies of the phenol group can only be settled by comparative trials.

Another important group of parasiticides, is that composed of iodine, bromine, and mercury com-

pounds. Iodoform has occupied lately a large place in professional confidence, as an antiseptic. In diphtheria it may be used in solution in ether, or, better, in the solid form, finely triturated with some suitable vehicle. The best combination is iodoform and tannin—the latter uniting with the mucus, forming a tough mass which holds the former in contact with the diseased surface. Iodotannin, a compound of iodine and tannic acid, which may be prepared extemporaneously by dissolving tannin in tincture of iodine, is little less effective than iodoform. Dissolved to the proper consistence, the solution can be painted on the affected part, as other fluid applications are made.

Bromine dissolved in water by the aid of potassium bromide, or an alcoholic solution, can be used as are the other members of this group, but it has no special advantages, and is, in respect to several qualities, objectionable.

Mercury is, unquestionably, growing in professional favor as a remedy for diphtheria. Calomel is an efficient topical application, used by the insufflator. When employed in this way, it should be prepared by trituration with sugar of milk, and then thoroughly dusted over the diseased part. Corrosive sublimate is the most destructive parasiticide, but its use requires circumspection. The solution in alcohol—one grain to one ounce of diluted alcohol—is a suitable proportion, but even this must be applied with care, painted or sprayed over the affected parts.

Quinine has, also, been used locally, with apparent advantage. The saturated solution of the hydrochlorate is a good preparation for this purpose. It is best used in the form of spray, which should be frequently and very persistently employed, or by means of a large, soft mop, a quantity of the solution can be dashed on where needed. A solution of quinine made by the aid of hydrobromic acid, may be more desirable, because stronger; but it cannot be used with the same freedom.

Chloral is one of the more useful of the local applications. It has an antiseptic action, is somewhat solvent of false membrane, and, probably, checks its formation. A solution in the proportion of ten grains to the ounce of water, may be applied, as the other solutions above referred to, in the form of spray, or by the brush or mop.

When the diphtheritic process invades the nares, it becomes exceedingly necessary to clear the passage and make efficient antiseptic applications to the diseased membrane. It is even more important in this case than in faucial diphtheria, for the reason that systemic infection is more apt to occur. With a suitable syringe, a solution of lactic acid, or lime-water, or the digestive papaïne, can be used to effect this important purpose. The passage-way opened, carbolic acid, resorcin, salicylic acid, iodized solutions, can be effectively applied. We need hardly assert that both time and patience are required to effect this important object, and unless effected a favorable termination cannot be reasonably hoped for.

The wealth of material at our disposal for the topical treatment of diphtheria is quite equalled by the remedies available for the systemic management. As very considerable depression of the vital powers occurs in every form of diphtheria, properly regulated support is necessary from the beginning. In this disease, as, indeed, in all corresponding maladies, the digestive fluids are wanting in the constituents essential to the process of digestion—pepsin and acid—and, hence, these should be artificially supplied with the foods. Peptonized preparations, *i. e.*, articles of diet partly digested by the addition of pancreatic fluid and an alkali, serve an excellent purpose.

To ply the patient with food which the organs of digestion cannot dispose of, is a not uncommon mistake, responsible, we doubt not, for the vital failure in some cases. Milk, beef-juice, and egg-nog are the most important articles, and with or immediately after them should be uniformly given pepsin and hydrochloric acid, or they should be properly peptonized. As a means of support, and as an important remedy, spirit (whiskey or brandy) plays the chief part in the therapeutical scheme of some practitioners, and by all it is utilized to some extent. That alcohol is, in a limited degree, a food, is now generally conceded; that it is an antiseptic of considerable power, is also recognized on all sides, and that it may be a cardiac stimulant or an antipyretic, according to the quantity administered, is a fact, but one not accepted unreservedly. The function of alcohol in diphtheria will, therefore, be determined by the mode of administration. Rarely, indeed, will the large doses, for an antipyretic effect, be required. Usually, moderate doses, frequently repeated will be administered to procure the effects of an antiseptic and a nutrient. As alcohol precipitates pepsin and destroys its ferment property when present in large quantity, and concentrated, if given to subserve the purpose of a food, it should be administered in small doses, and be freely diluted; if given to act as an antiseptic, it should be administered in large doses, and between the food when the stomach is empty. Any indefinite, especially any hap-hazard prescription of alcoholic stimulant is to be deprecated. The utility of alcohol in diphtheria, rightly given, is certainly great, but on the care with which the administration is conducted depends the degree of usefulness attained.

In our next issue we will consider the systemic treatment.

RESECTION OF THE RIBS FOR CHRONIC EMPYEMA.

IN the *Union Médicale*, of January 1 and 29, 1884, may be found a paper by M. BERGER, and a discussion at the Société de Chirurgie, on the removal of portions of one or more of the ribs for chronic pyothorax, complicated by a rebellious fistule, with the double object of affording a free outlet for the pent-up fluid and permitting approximation of the walls of the cavity. Of 27 cases, in which the result was known, 10 were completely cured, 8 were greatly relieved, 3 failed, and 6 died, but the deaths, except in one case, could not be attributed to the procedure itself.

The operation is usually described as that of Estlander, who first practised it in 1876, and Berger claims for him the merit of having originated it. Such a statement is, however, utterly unwarranted, as Roser had done the operation in 1865, and Simon repeated it in 1869, and, therefore, preceded Estlander in Europe. The measure in reality originated in this country, on December 8, 1857, with Dr. A. G. Walter, of Pittsburgh, who published a full account of his case in the *British Medical Journal*, of January 21, 1860, from which it appears that portions of the seventh, eighth, and ninth ribs were removed with bone-pliers. Five years later, Dr. Warren Stone, of New Orleans, accomplished the desired objects by excising a disk of the rib with the trephine. It will thus appear that Walter antedated Roser by eight years, and Estlander by nineteen years, and that he is entitled to the credit of having conceived and practised an operation to which the name of another surgeon is commonly attached.

HÆMOGLOBINÆMIA AND HÆMOGLOBINURIA.

SOME interesting experiments have recently been made in Germany by Litten and others, consisting in the intravenous injection of substances supposed to have a disorganizing effect upon the red blood-corpuscles, and producing hæmoglobinæmia. Among these were aniline, common salt, and chlorate of potassium.

Litten found, after the injection of aniline, nephritis and an increased quantity of blood-coloring matter in the urine, to which he ascribed the nephritis, and concluded that all substances which dissolve blood-corpuscles act in this manner. Liebreich, on the other hand, ascribed the nephritis to the toxic action of the aniline itself, and not to the hæmoglobin resulting from the disintegration of red corpuscles.

The possibility of the former view is sustained by the results of some experiments by Lassar, who injected the defibrinated blood of an animal into the peritoneal cavity of another of the same species. In the case of rabbits in a few days, and in that of dogs during the second week, a urine of normal hue and without albumen suddenly became highly charged with hæmoglobin, followed by an albuminuria which continued for several months. These conditions were found to be associated with interstitial and sometimes parenchymatous nephritis. The observations of Ponfick and Lebedeff tend to the same conclusion.

The exact import of these results is as yet undetermined, but they have a bearing upon two important pathological conditions. One is that of hæmoglobinuria as we find it resulting from malarial poisoning, and the other is hæmatogenic or blood-icterus, as distinguished from hepatogenic jaundice or that occurring from obstruction of biliary passages and reabsorption of biliary coloring matters.

As to the former, it is well known that it is accompanied by blood-casts and casts made up of the granular débris of red blood-disks; also by hyaline fibrinous casts. We have never considered these as symptomatic of nephritis, but rather due to coagulated blood-elements.

Again, as to blood-icterus, such as occurs in acute yellow atrophy of the liver and other profound dyscrasic conditions. The existence of this is undoubted, and is believed to be due to rapid disintegration of blood-disks and the staining of the tissues by the dissolved hæmoglobin. It would seem, according to Leyden, that this occurs in cases in which the liver and kidney are too quickly involved in the general process to permit them to eliminate the coloring matter separated by these normal channels in health. Such results Leyden claims to have produced by the intravenous injection of potassium chlorate, in which the kidneys are obstructed and the excretion of hæmoglobin interfered with. This explanation seems to us to be a very reasonable one, and argues against the dissolved hæmoglobin being the cause of a nephritis, as claimed by Litten.

GOUTY NEPHRITIS.

IN the discussion which took place in the Berlin Medical Society, January 9th, upon PROF. VIRCHOW'S paper, referred to in our issue of February 2d, opinion was not in entire accord with the views of the distinguished Professor. Fürstenheim, especially, claimed that in certain cases of stone in the bladder the calculus is made up of the same acicular crystals of urate of sodium which make up gouty tophi, simply grouped in another way—the fluids holding them in solution until they reach the pelvis of the kidney or bladder, instead of depositing them in the tissues, as in gout. Why one situation is selected rather than another, he does

not say, but suggests that a certain property of the cartilages and ligaments may determine the deposition there in given instances.

Fürstenheim argues that the fact mentioned by Virchow, that those suffering with stone seldom or never suffer with attacks of gout, does not prove that both conditions do not result from the same tendency. And further, that as gout is not confined to the rich or free-living, so calculus is also found among the poor.

It is, perhaps, well that attention has been called to this matter by so conspicuous an authority as Virchow, since it is certain that Fürstenheim is not the only practical physician who has heretofore thought that there was a very close relation between uric acid gravel and gout.

COMPULSORY EXPERT TESTIMONY WITHOUT REMUNERATION.

AMONGST the various trials, annoyances, and ills which beset the path of the medical expert, not the least is that against which the Greene County Medical Society of Alabama recently protested—namely, the right of the Commonwealth to demand, without proper compensation, the attendance and professional advice of the expert. Unfortunately, it seems to be well settled that in most of our States the Court has such power, and that the expert has no redress.

The practice is based upon the English law and custom, which are clearly recognized in the last edition of Taylor, as well as in other standard works upon medical jurisprudence. Prof. Washburn, of the Harvard Law School, states the principle in the following language: "If the case be one of a public nature, involving the question of a crime of magnitude, when the public safety requires the investigation, the right to compel the attendance of such a witness becomes an incident to the exercise of government itself, in the same way that a juror is obliged to sacrifice convenience or profit to render a public service."

There is one point which should be generally understood by medical men, namely, that the law applies only to public suits, and that in *private* suits the Court has no power to enforce the presence of the medical witness. In such a suit, according to an English decision in 1843 (1 *Carrington & Kirwein*, 23), a witness called to depose to a "matter of opinion depending on his skill in a particular trade, has, before he is examined, a right to demand from the party calling him a compensation for his loss of time; and there is a distinction between a witness thus called and a witness who is called to depose to facts which he saw."

Without attempting to go over the oft-travelled ground as to the hardships and rights of the medical expert in this matter, we want to call attention to the fact that the *true interests of the Commonwealth* demand that the medico-legal expert, when employed, should be well paid. There is no greater fallacy than that involved in the belief that because a man is a doctor therefore he is qualified to give advice in medico-legal matters. It is essential, in civilized communities, that there be persons who shall give attention to medico-legal questions entirely outside the ordinary duties of the physician. Unless there is a prospect of proper compensation, men of ability will not labor to acquire the knowledge and experience necessary to fit them for special court duty.

The comparison, often made by those advocating the right to gratuitous expert service, should not be between the medical expert and the juryman, but between him and the judge. No special skill or preparation is required of the juryman, whilst expert and judge alike must devote their lives to the study of the subjects coming before them for decision. The State has as much right to claim, without pecuniary return, the time of a military man to lead its armies, of a lawyer to act the part of the judge, or of a business man to manage the State finances, as it has to demand gratuitous service of the medical jurist. The Commonwealth is but an aggregation of units, *i. e.*, citizens, and when this aggregation demands *especial* service, based upon especial skill, the cost should not be poured *en masse* on the single unfortunate unit, *i. e.*, the expert selected by the Court representing the Commonwealth; but should shower in its infinite subdivisions upon all units alike. The doctor paying taxes bears his share of the common expense, which is all that ought to be required of him.

We believe that the only State whose legislature has had the good sense to see that the true interest of the community requires that justice should be done to the medical expert, is Iowa. The Act of 1873 of that State provides that

> "Witnesses called to testify only to an opinion founded on special study or experience in any branch of science, or to make scientific or professional examinations, and to state the results thereof, shall receive additional compensation, to be fixed by the Court, with reference to the value of the time employed and the degree of learning or skill required."

We opine that the Greene County Medical Society has done well in requiring its representatives to urge the Alabama State Society to use its influence in securing similar legislation in Alabama, and express the wish that the matter may be brought forcibly to the attention of all the various State Societies.

A NEW NATIONAL PHARMACOPŒIA.

THE proposition for a National Pharmacopœia appears to meet with general professional commendation, and the only unfavorable criticism which we have seen is based on trivial grounds or on erroneous views of the power of Congress in the premises. Our friends of the *New York Medical Journal*, for instance, seem exercised over the idea that the proposed National Pharmacopœia is to be rendered legally binding on all citizens of the United States by Act of Congress, and it seeks to alarm the pharmaceutical profession with the notion that every druggist who might vary from the directions of such a work would be liable to prosecution. Our contemporary's views as to the constitutional powers of Congress are evidently very hazy, for it adds that "it seems to us that a standard strength and a standard purity are all that the Government can legitimately enforce in the matter of drugs."

If our friends will refer to Article II. Section viii. of the Constitution of the United States, they will find that their fears are groundless, and that their conceptions of the power of Congress are by far too liberal. The authority granted to that body does not extend to fixing a standard of drugs and preparations which shall be imperative on the medical and pharmaceutical professions. It can, however, provide a standard for its own departments, and this is all that Mr. Randall's bill proposes to do. If, as is to be expected, that standard should prove free from the imperfections of the existing Pharmacopœia, the latter would be naturally superseded; but, in any case, it would be for the professions to determine which of the two should be recognized.

SOCIETY PROCEEDINGS.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, February 12, 1884.

THE VICE-PRESIDENT, CHARLES MCBURNEY, M.D., IN THE CHAIR.

DISLOCATION OF THE COMMON CAROTID ARTERY.

DR. F. LANGE presented a patient, a woman, forty-seven years of age, who had been troubled with a disagreeable feeling in her throat for about nine months, which she described as a perpetual desire to swallow. She had been treated with internal and external remedies and applications, and called at his office about a week ago, when he examined the throat and discovered what could be readily seen on the posterior wall of the pharynx, on the right side, at the lower edge of the arcus pharyngo-palatinus—a roundish, pulsating tumor. Closer examination showed that it was the common carotid artery, which was dislocated, and could be traced by laryngoscopic examination as far down as the arytenoid cartilage.

There were also hypertrophy of the left ventricle and a decided thickening of the coats of the other carotid artery, which was situated abnormally superficially, and there was some albumen in the urine; and the patient said that about nine years ago she had an attack of acute nephritis. The question was whether the trouble depended upon the anatomical abnormity, and had always existed, or only since the trouble in her throat has been manifested.

On the left side the soft parts are slightly prominent, and are sunk in on the right side. Dr. Lange thought the prominence of the artery on the left side was due to the superficial position of the common carotid artery; moreover, the entire larynx seemed to him to be abnormally movable, especially so as one could pass on the right side the fingers behind the thyroid cartilage and pull the artery out, dislocate it laterally, and push the larynx well over to the opposite or left side. He thought it probable that it was the common carotid and the beginning of the internal carotid which were dislocated. The artery seemed so movable beneath the mucous membrane of the pharynx that, by some pressure from the right side, it would be pushed almost as far as the middle line, passing from there upwards and to the right side in a curved line.

ARTHRITIS DEFORMANS; HYDRARTHROSIS; CORPUS MOBILE; ARTHROTOMY.

DR. LANGE also presented a patient with the following history:

A man, fifty-eight years of age, has been troubled with his right knee for a good many years, and attributes it to a very curious cause, namely, for more than fifteen years he has suffered from a constant feeling of pressure in the region of the rectum, which obliged him to use the chamber-pot very frequently. By and by he fell into the bad custom of so frequently yielding to this sensation that he must have been seated the greater part of the day on a small pot which he used to carry with him. The most thorough examination does not reveal any material change in or about the rectum which might explain this suffering, and I think it to be a symptom of marked hypochondriasis, which of late, through mere exercise of will, has been markedly improved. Now the patient himself thinks that this constant low sitting posture, with much flexed knees—and more so the right one—was a great strain to the latter. By and by it became thickened and abnormally movable; though he could walk, he was unable to use it for lengthy exercise. When I saw the patient in August, last year, his right knee presented, in fact, a grotesque appearance. It was the largest knee-joint I ever saw, except one, and its circumference was twenty centimetres more than that of the healthy side, which was due mostly to fluid within the capsule. The latter seemed much thickened, and so distended, that the upper recess almost reached the middle length of the femur. There existed in the popliteal space a protuberance of the size of about a medium-sized fist, having itself a smaller protuberance the size of a small apple, resistant and smooth, and located behind and above the external condyle. The leg was somewhat œdematous; subcutaneous veins distended. Flexion and extension could be made almost to the normal boundaries. Besides, there existed lateral mobility to such a degree that at each step the knee was

markedly projected outwards, and a strong genu valgum set in. You will see this abnormity still present if the patient removes his apparatus.

Performed arthrotomy in September last by two long, lateral incisions. A large amount of synovial fluid escaped, and such an enormous mass of soft, fibrinous layers that I do not think the latter were less than a pint. They were mostly scraped out by means of a sharp spoon, leaving the synovial membrane thickened, smooth, velvet-like, and highly vascularized. Together with those masses this long body escaped, about the size of a large bean, rough surface, bony, but covered with a very thin layer of cartilage, as you see on the cross-cut. The bony parts and cartilage of the joint presented the characteristic changes of arthritis deformans. Impressions and elevations on the cartilages. The edges of the bone thickened and broadened by irregular pad-like protuberances. The swelling in the popliteal region was hardly affected by the incisions in front, and became only a little smaller. I should have incised also, but contrary to my expectation the patient had lost a great deal of blood, mostly from the highly vascularized and thickened synovial membrane, so that I was obliged to desist for the present from further surgical interference. Drains were inserted, the wounds closed by suture, and the knee immobilized, of course, above an antiseptic dressing. For the first days the discharge of a synovial-like fluid was sq ample that the dressing had to be changed almost daily, but healing took place without bad symptoms within about four weeks. The size of the knee has been considerably reduced —according to a measurement two months after the operation, by about thirteen centimetres; at present it is forty-two centimetres, which means twelve centimetres less than at the time of the operation. The swelling in the popliteal space is also decidedly smaller and softer, and you feel in it, here and there, on motion a soft crepitus, as if fibrinous bodies escape under the pressure of the finger. The abnormal lateral mobility has not been improved so far. I have the patient wearing this very solid and strong, double-iron splint from the pelvis to the knee. A counter-pressure is, at the same time, exerted upon the outside of the leg, immediately below the knee, to counteract the tendency toward outward subluxation of the tibia. It seems as if there is some loss of bony substance at the inner condyles, so that a wide gap is formed between them if you force the leg in a straight position. My idea is to maintain this position by the splint, thereby causing pressure of the external condyles against each other and gradual loss of bony substance until both surfaces can meet again to such an extent that the adaptation is perfect. Perhaps complete anchylosis would be the most favorable result to the patient.

Neither any abnormity of sensibility nor of function of the sphincters exists, which might entitle us to assume a spinal origin of the affection.

ADDUCTION AND ABDUCTION IN FRACTURES OF THE NECK OF THE FEMUR.

DR. W. S. HALSTED presented a case of fracture of the neck of the femur with abduction, and a specimen of intracapsular fracture of the neck of the femur from a case in which there had been adduction and one-eighth of an inch lengthening.

He called attention to the necessity of making allowance for adduction and abduction in the estimation of the amount of shortening in these cases. From certain measurements made upon dead and living subjects, he had demonstrated that as abducting the lower limb makes it measure less along the line from the anterior superior spine of the ilium to either malleolus, so adducting it makes it measure more along the same line. Furthermore, that one leg being adducted, the other must be abducted to be brought parallel with it. Hence, in fractures of the neck of the femur with adduction the injured limb might actually measure longer than the sound one; first, because it is lengthened by adduction, and, second, because its fellow is shortened by abduction.

In the case from which the specimen was taken he was enabled to make the diagnosis of fracture because of a recognition of these facts. The injured limb was *apparently* shortened, but by measurement, from anterior superior spine of ilium to malleolus, it was lengthened one-eighth of an inch, although one-fourth of an inch shortened along Bryant's line.

The patient presented with fracture of the neck of the femur and abduction had limbs of apparently equal length. Along Bryant's line the injured limb measured three-eighths of an inch, but from anterior superior spine of ilium, one-eighth, and from the malleolus externus, one and one-fourth inch shorter than the sound one. Dr. Halsted remarked further, that of cases which, measured on Bryant's line, were equally shortened, the adducted limbs would necessitate more of a limp than the abducted ones. In consideration thereof he believed it unwise to allow the limb to remain in an adducted position.

DR. POST remarked with regard to the anatomical specimen, that it would hardly seem probable that such a degree of absorption could have taken place within two weeks unless there had been some previous disease. The specimen itself would seem to indicate that several months must have passed after the receipt of the injury.

DR. HALSTED said the man certified that he had never had any trouble with his hip-joint, and had never been obliged to walk with a limp nor had he received any injury.

ANEURISM OF THE FEMORAL ARTERY; LIGATION OF THE EXTERNAL ILIAC; CURE.

DR. MCBURNEY presented a patient with the following history: A man, fifty-seven years of age, ten years ago received a slight injury over the right femoral artery, high up, and apparently in consequence of that a tumor formed, which has slowly but steadily increased in size, when, at the end of that time he came under Dr. McBurney's observation. The patient had not had any pain or inconvenience from the tumor, but on account of its rapidly increasing growth of late, he sought advice, and in November last came under Dr. McBurney's care, who found a pulsating tumor in Scarpa's trlangle, which presented the usual phenomena of an aneurism.

Dr. McBurney advised digital compression, but the patient was not prepared at that time to submit to treatment, and returned to his home in Vermont. After doing considerable hard work, he returned in December, and when Dr. McBurney then saw him he found Scarpa's triangle almost entirely occupied by the tumor, which

also extended outward as far as the external edge of the great trochanter. It pulsated throughout its entire extent. He thought there still was room above the tumor to apply digital compression, which method was faithfully applied continuously for twelve hours by Dr. Woodward and other members of the House Staff, but without avail. He then—on December 20th—ligated the external iliac artery. The operation was performed in the usual way. One noticeable feature about it was that the vessel was so tortuous that it descended below the pelvis as much as an inch and a half, and had to be drawn up in order to throw a ligature about it. The operation was performed under frequent irrigations of bichloride solution, and catgut was used, which was applied about two inches above Poupart's ligament. The gut was an "E" violin string, prepared and given to him by Dr. Briddon. The iodoform-gauze dressing was applied, and the first dressing was allowed to remain six days; at the end of that time it was removed, and the wound was found entirely healed except where the drainage-tube had been inserted. A new dressing was applied, which was removed four or five days afterward, and the subsequent progress of the case was favorable and entirely uninterrupted. Nothing occurred after the operation in the way of interference with the circulation, such as sometimes manifests itself in cutaneous lesions. Dr. McBurney had not been able to find any pulsation or bruit in the tumor since the operation. It had diminished in size somewhat, but just how much he was at the time unable to say. It was nearly eight weeks since the operation was performed, and it seemed to him to be a satisfactory cure.

DR. E. L. KEYES then read a paper on

THE GEOGRAPHICAL DISTRIBUTION OF URINARY CALCULUS, WITH AN INQUIRY INTO ITS CAUSE.

(See page 233.)

Dr. POST said that he had lately received a letter from his son in Beyrout, Syria, in which he stated he had just performed his twenty-first operation for stone, showing that stone is very prevalent in that region, including Syria and the adjacent provinces. All these operations have been performed within fourteen years. There are other operators in that locality, but most of the operations had been performed by Dr. Post, and probably also chiefly in hospital service. The climate is a semi-tropical one.

DR. LANGE exhibited an

ARRANGEMENT FOR HOLDING NEEDLES AND SILK,

which might recommend itself for very fine needles which are used for suture of the intestine, it being rather tedious to arm the needles during the operation. Thread the needles, secure them between two rubber bands of disinfected drainage-tube around an ordinary test-tube, also secure the ends of the silk around the other extremity with another rubber band, and immerse the whole in an ordinary lamp chimney filled with glycerine, and cork with rubber corks. Thus far the needles had not corroded when kept in pure American glycerine, nor had he noticed that the sulphur which the rubber mostly contains had tarnished them.

COMPOUND DISLOCATION OF THE FIRST PHALANX OF THE GREAT TOE.

DR. J. C. HUTCHISON was called to see a man who had fallen from a tight-rope. He visited the patient within half an hour after the accident, and found that he had a compound dislocation, backwards, of the first phalanx of the great toe. The wound was on the inner side, communicated with the joint, and was about half an inch in diameter. All the usual expedients were resorted to for effecting reduction, but without accomplishing it. He then divided the internal lateral ligament, a portion of which seemed to have been torn. Subsequently he divided the external lateral ligament, and still was unable to reduce the dislocation. He then divided, subcutaneously, the tendon of the extensor proprius pollicis, and at once was able to put the bone into position. No splint was used; the toe was simply enveloped with a considerable quantity of cotton-wool, and surrounded with a bandage. At the end of three or four days, the dressing was removed and reapplied. Dr. Hutchison saw the patient walking with a crutch about a week after the occurrence of the accident, and learned that he had a satisfactory recovery. The case was interesting to him, because it was the only one he had ever met with, and it was also one which illustrated the same difficulty of reduction that is observed in dislocations of the thumb.

DR. MCBURNEY asked if the extensor tendon of the toe seemed to be the resisting point.

DR. HUTCHISON said it seemed so, and he had an impression that if he had divided this tendon first, reduction could have been effected without further operative interference.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Stated Meeting, February 6, 1884.

THE PRESIDENT, SAMUEL LEWIS, M.D., IN THE CHAIR.

DR. H. C. WOOD read a paper on the

CLINICAL ASPECTS OF CEREBRAL SYPHILIS.

He said that it is naturally to be expected that any cause of ordinary brain inflammation would, when present in a syphilitic person, tend to precipitate a specific cerebral disease. Thus, as thermic fever frequently provokes chronic meningitis, much plausibility attaches to the report of a case in the *Journ. de Méd. et Chir. prat.*, Paris, 1879, p. 291, in which the cerebral syphilis is ascribed to a sunstroke. Blows and other traumatisms would, in a similar manner, be supposed to figure largely as exciting causes of brain syphilis; but he has never met with a case having such relations, and reports of them are rare in literature.

Various authorities attach much influence to overstudy and other forms of cerebral strain in exciting brain syphilis, but neither in private nor public practice has he met with any instance where over-brain work could be considered a distinct etiological factor, and cases of brain syphilis in which any exciting cause can be found are very rare.

The inherited diathesis is less prone to manifest itself in the nervous system than in other portions of the body, but it certainly is capable of causing every type of nervous disease that follows infection from impure coition.

It is a matter of great interest to know how late in life nervous disease from inherited taint may develop.

We have, as yet, little light upon the equally interesting and cognate problem as to how far inherited syphilis may produce late in life nervous diseases whose type is not distinctly specific, but it is probable that even after puberty specific nervous affections may appear for the first time in the unfortunate offspring of syphilitic parents.

Some time since, Dr. Wood saw, in an orphan of fourteen, a chronic basal meningitis, and, in the absence of any history, gave the fatal prognosis of tubercular disease; but to his astonishment, under the long-continued use of iodide of potassium, complete recovery occurred. No signs of inherited syphilis were perceptible, but the specific nature of the inflammation is, in view of the result, scarcely doubtful. It is probable that in some of the reported cases of recovery from alleged tubercular meningitis, the affection has been really syphilitic.

Nervous diseases following acquired syphilitic infection certainly belong to the advanced stages of the disorder. From the third to the tenth year may be considered the period of maximum frequency of nerve accidents.

The fact that cerebral syphilis may occur many years after the cessation of all evidence of the diathesis is one of great practical importance, especially when taken in conjunction with the circumstance that the nervous system is more prone to be attacked when the secondaries have been very light than when the earlier manifestations have been severe. I have repeatedly seen nervous syphilis in persons whose secondaries have been so slight as to have been entirely overlooked or forgotten, and who honestly asserted that they never had had syphilis, although they acknowledged to gonorrhœa or to repeated exposure, and confessed that their asserted exemption was due to good fortune rather than chastity.

Although syphilis is most prone to attack the nervous system many years after infection, it would be a fatal mistake to suppose that brain disease may not rapidly follow the occurrence of a chancre. The minimum possible intermediate period is certainly very brief.

In a case which recently occurred in the practice of Dr. A. Sydney Roberts, of this city, the chancre appeared after a period of incubation of twenty-six days, and two months and eight days subsequent to this came the first fit; eight days after the first the second convulsion occurred, with a distinct aura, which preceded by some minutes the unconsciousness.

The recorded cases show that cerebral syphilis occurs not very rarely within six months after infection, and may be present in two months.

An interesting observation in this connection is that of Dr. Ern. Gaucher (*Revue de Méd.*, 1882, ii. 678) of a spinal syphilis occurring six months after the appearance of a chancre.

Disease of Brain Membranes.—Specific affections of the brain membranes very often declare themselves with great suddenness. The records of the disease present case after case in which an apoplectic attack, a convulsive paroxysm, a violent mania, or a paralytic stroke, has been the first detected evidence of syphilitic cerebral disease. On the other hand, in many instances the symptoms come on slowly and successively.

Headache, slight failure of memory, unwonted slowness of speech, general lassitude, and especially lack of willingness to mental exertion, sleeplessness or excessive somnolence, attacks of momentary giddiness, vertiginous feelings when straining at stool, yelling, or in any way disturbing the cerebral circulation, alteration of disposition—any of these, and *à fortiori*, several of them, occurring in a syphilitic subject, should be the immediate signal of alarm, and lead to the examination of the optic disks. Of course, if choked disk be found, the diagnosis becomes practically fixed, but the absence of choked disk is no proof that the patient is not suffering from cerebral syphilis. There is one symptom that may occur during the prodromic stage, and which, in a person not hysterical, should give rise to the strongest suspicion: this is repeated, partial, passing palsies. A momentary weakness of one arm, a slight drawing of the face disappearing in a few hours, a temporary dragging of the toe, a partial aphasia which appears and disappears, a squint which to-morrow leaves no trace, may be due to a non-specific brain tumor, to miliary cerebral aneurisms, or to some other non-specific affection: but in the great majority of cases where such phenomena occur repeatedly, the patient is suffering from syphilis or hysteria.

It is doubtful whether an acute syphilitic meningitis can ever develop as a primary lesion; whether it must not always be preceded by a chronic meningitis or by the formation of a gummatous tumor; but it is very certain that acute meningitis may develop when there have been no apparent symptoms, and may, therefore, seem to be abrupt in its onset.

Some years ago I saw, in consultation, a man who, in the midst of apparent health, was attacked by violent meningeal convulsions, with distinct evidences of acute meningitis. He was apparently saved from death by very heroic venesection, but after his return to consciousness developed very rapidly a partial hemiplegia, showing that a latent gumma had probably preceded the acute attack. On the other hand, an acute attack is liable at any time to supervene upon a chronic syphilitic meningitis. At the University Hospital Dispensary, I once diagnosed chronic cerebral syphilis in a patient who the next day was seized with violent delirium, with convulsions and typical evidences of acute meningitis, and died four or five days afterwards. At the autopsy an acute meningitis was found to have been engrafted on a chronic specific lesion of a similar character.

In the cases of *chronic meningeal syphilis* which have come under my observation, most usually after a greater or less continuance of prodromes, such as have been mentioned, epileptic attacks have occurred with a hemiplegia, or a monoplegia, which is almost invariably incomplete and usually progressive; very frequently diplopia, from palsy of the ocular muscles, is manifested before the epilepsy. Not rarely oculo-motor palsy is an early and pronounced symptom, and a marked paralytic squint is very common. Along with the development of these symptoms, there is almost always distinct failure of the general health, and progressive intellectual deterioration, as shown by loss of memory, failure of the power to fix the attention, mental bewilderment, and, perhaps, aphasia. If the case convalesce under treatment, the amelioration is gradual, the patient travelling slowly up the road he has come down. If the case end fatally, it is usually by a gradual sinking into complete nerve-paralysis, or the patient is carried off by an acute inflammatory exacerbation, or, as I saw in one case, amelioration may be rapidly occurring, and a very

violent epileptic fit produce a sudden asphyxia. In this form of cerebral syphilis, death from brain-softening around the tumor is not infrequent; but a fatal apoplectic hemorrhage is rare.

The clinical varieties of cerebral meningeal syphilis are so polymorphic and kaleidoscopic that it is almost impossible to reduce them to order for descriptive purposes. Heubner makes the following types:

"1. Psychical disturbances, with epilepsy, incomplete paralysis (seldom of the cranial nerves), and a final comatose condition usually of short duration.

"2. Genuine apoplectic attacks with succeeding hemiplegia, in connection with peculiar somnolent conditions, occurring in often-repeated episodes; frequently phenomena of unilateral irritation, and generally at the same time paralyses of the cerebral nerves.

"3. Course of the cerebral disease similar to paralytica dementia."

In regard to these types, the latter seems clear and well defined, but contains those cases which will be discussed under the head of cortical disease.

Meningeal syphilis, as seen in this country, does not conform rigidly with the other asserted types, although there is this much of agreement, that when the epilepsy is pronounced, the basal cranial nerves are not usually paralyzed, the reason of this being that epilepsy is especially produced when the gummatous change is in the ventricles or on the upper cortex. In basal affections, the epileptoid spells, if they occur at all, are usually of the form of petit mal; but this rule is general, not absolute. The apoplectic somnolent form of cerebral syphilis, for some reason, is rare in this city; and it seems necessary to add to those of Prof. Heubner's, a fourth type to which a large proportion of our cases conform. This type I would characterize as follows:

4. Psychical disturbance without complete epileptic convulsions, associated with palsy of the basal nerves, and often with partial hemiplegia.

Headache is the most constant, and usually the earliest symptom of meningeal syphilis; but it may be absent, especially when the lesion is located in the reflexions of the meninges, which dip into the ventricles, or when the basal gumma is small and not surrounded with much inflammation. That it may continue for years without the development of other distinct symptoms is remarkable. It sometimes disappears when other manifestations develop. It is—except in very rare cases—at least so far paroxysmal as to be subject to pronounced exacerbations. In most instances it is entirely paroxysmal, and these paroxysms may occur only at long intervals. Such distant paroxysms are usually very severe, and are often accompanied by dizziness, sick stomach, partial unconsciousness, or even by more marked congestive symptoms. The pain may seem to fill the whole cranium, may be located in a cerebral region, or fixed in a very limited spot. According to my own experience, any localized soreness indicates an affection of the bone or of its periosteum.

There is nothing absolutely characteristic in this headache; but excessive persistency, apparent causelessness, and a tendency to nocturnal exacerbation, should in any cephalalgia excite suspicion of a specific origin—a suspicion which is always to be increased by the occurrence of slight spells of giddiness, or by delirious mental wandering accompanying the paroxysms of pain.

Disorders of Sleep.—There are two antagonistic disorders of sleep, either of which may occur in cerebral syphilis. Insomnia is more apt to be troublesome in the prodromic than in the later stages, and is not of itself of much significance. Somnolence may occur in non-specific lepto-meningitis, and in states of altered brain nutrition from senile or other degenerations of the walls of the cerebral vessels, and is therefore not pathognomonic of cerebral syphilis, yet of all the single phenomena of the latter disease it is the most characteristic.

As I have seen it, it occurs in two forms: In the one variety, the patient sits all day long or lies in bed in a state of semi-stupor, indifferent to everything, but capable of being aroused, answering questions slowly, imperfectly, and without complaint, but in an instant dropping off again into his quietude. In the other variety, the sufferer may still be able to work, but often falls asleep while at his tasks, and especially towards evening has an irresistible desire to slumber, which leads him to pass, it may be, half of his time in sleep. This state of partial sleep may precede that of the more continuous stupor, or may pass off when an attack of hemiplegia seems to divert the symptoms. The mental phenomena in the more severe cases of somnolency are peculiar. The patient can be aroused; indeed, in many instances he exists in a state of torpor rather than of sleep; when stirred up, he thinks with extreme slowness, and may appear to have a form of aphasia; yet, at intervals, he may be endowed with a peculiar automatic activity, especially at night. Getting out of bed; wandering aimlessly and seemingly without knowledge of where he is and unable to find his own bed; passing his excretions in a corner of the room, or in other similar place, not because he is unable to control his bladder and bowels, but because he believes that he is in a proper place for such act—he seems a restless automaton rather than a man.

Apathy and indifference are the characteristics of this state, and yet the patient will sometimes show excessive irritability when aroused, and will at other periods complain bitterly of pain in his head, or will groan as though suffering severely in the midst of his stupor, at a time, too, when he is not able to recognize the seat of the pain. This somnolent condition may last many weeks.

In its excessive development, syphilitic stupor puts on the symptoms of advanced brain softening, to which it is, indeed, often due. Nevertheless, a prolonged deep stupor in persons suffering from cerebral syphilis does not prove the existence of extensive brain softening, and is not incompatible with complete recovery.

Paralysis.—A specific palsy may be of any conceivable variety, and affect either the sensory, motor, or intellectual sphere. The mode of onset is as various as the character of the palsy. The attack may be instantaneous, sudden, or gradual. It will be usually noted that the palsy is incomplete; in rare instances it may be at its worst when the patient awakes from an apoplectic seizure, but mostly it progressively increases for a few hours, and then becomes stationary.

A suddenly developed *complete* hemiplegia, or other paralysis, may be considered as in all probability either hemorrhagic or produced by a thrombus so large that the results will be disorganization of the brain substance, and a future no more hopeful than that of a clot. On the other hand, an *incomplete* palsy may be rationally

believed to be due to pressure or other removable cause, and this belief is much strengthened by a gradual development.

Morbid exudations, not tubercular nor syphilitic, are very rare at the base of the brain. Hence a rapidly, but not abruptly, appearing strabismus, ptosis, dilated pupil, or any paralytic eye symptom in the adult is usually of syphilitic nature.

Motor palsies are more frequent than sensory affections in syphilis, but hemianæsthesia, localized anæsthetic tracts, indeed any form of sensory paralysis may occur. Numbness, formications, all varieties of parasthesia are frequently felt in the face, body, or extremities. Violent peripheral neuralgic pains are rare, and generally when present denote neuritis.

The special senses are liable to suffer from the invasion of their territories by cerebral syphilis, and the resulting palsies follow courses and have clinical histories parallel to those of the motor sphere. The onset may be sudden, or gradual, the result temporary or permanent. Like other syphilitic palsies, paralyses of special senses may come on suddenly or gradually, and may occur paroxysmally.

Aphasia is usually a symptom of advanced disease, but may be a primary evidence of cerebral syphilis.

Coming on after an apoplectic or epileptic fit, it may be complete or incomplete: owing to the smallness of the centre involved, and the ease with which its function is held in abeyance, a total loss of word-thought is not so decisive as to the existence of cerebral hemorrhage as is a total motor palsy. Like hemiplegia or monoplegia, specific aphasia is sometimes transitory and paroxysmal.

Owing to the centres of speech being situated in the cortical portion of the brain, aphasia in cerebral syphilis is very frequently associated with epilepsy. Of course, right-sided palsy and aphasia are united in syphilitic as in other disorders. If, however, the statistics given by M. Tanowsky (*L'Aphasie Syphilitique*) be reliable, syphilitic aphasia is associated with left-sided hemiplegia in a most extraordinarily large proportion. This concurrence of left-sided paralysis and aphasia probably depends partly upon the great frequency of multiple brain lesions in syphilis, and partly upon the habitual involvement of large territories of the gray matter secondarily to diseased membrane. The conjoint existence of left hemiplegia and aphasia is almost diagnostic of cerebral syphilis.

Amongst the palsies may be considered the disturbances of the renal functions which are met with in cerebral syphilis, and which are probably usually dependent upon the specific exudation pressing upon the vaso-motor centres in the medulla. Fournier speaks of having notes of six cases in which polyuria and polydipsia were present. Servantié reports true saccharine diabetes, and I have seen one such case.

Epilepsy.—Epileptic attacks are a very common symptom of meningeal syphilis, and are of great diagnostic value. The occurrence in an adult of an epileptic attack, or of an apoplectic fit, or of a hemiplegia after a history of intense and protracted headache, should always excite grave suspicion.

Syphilitic epilepsy may occur either in the form of petit mal or of the haut mal, and in either case may take on the exact characters and sequence of phenomena which belong to the so-called idiopathic or essential epilepsy. The momentary loss of consciousness of petit mal will usually, however, be found to be associated with attacks in which, although voluntary power is suspended, memory recalls what has happened during the paroxysm; attacks, therefore, which simulate those of hysteria, and may lead to an error of diagnosis.

In many cases of specific convulsions, the movements are in the onset—or, more rarely, throughout the paroxysm—unilateral. This restriction of the convulsion simply indicates that the fit is due to a cortical organic lesion of some kind.

A specific epilepsy may be replaced by a local spasm. Thus, in one of my cases, the repeated epileptic convulsions ended in a painless tic. The clonic spasms were very frequent and violent, and mostly confined to the left facial nerve. The trigeminus was never affected, but in the severer paroxysms the left hypoglossal and spinal accessory nerves were profoundly implicated in all of their branches. Once, fatal asphyxia from recurrent laryngeal spasm was apparently averted only by the free inhalation of the nitrite of amyl.

Psychical Symptoms.—As already stated, apathy, somnolence, loss of memory, and general mental failure are the most frequent and characteristic mental symptoms of meningeal syphilis; but, as will be shown further on, syphilis is able to produce almost any form of insanity, and therefore mania, melancholia, erotic mania, delirium of grandeur, etc., may develop along with the ordinary manifestations of cerebral syphilis, or may come on during an attack which has hitherto produced only the usual symptoms.

That the attacks of syphilitic insanity, like the palsies of syphilis, may at times be temporary and fugitive, is shown by a curious case reported by D. H. Hayes Newington (*Journ. Ment. Sci.*, London, xix. 555), in which, along with headache, failure of memory, and ptosis in a syphilitic person, there was a brief paroxysm of noisy insanity.

Diseases of Brain Substance.—Very few alienists recognize the existence of a distinct affection entitled to be called syphilitic insanity, and there are some who deny that insanity is ever directly caused by syphilis. It is certain that syphilis is often an indirect cause of an insanity which could not be properly styled syphilitic; but if there be disease of the brain cortex produced directly by syphilis, of course such disease must give rise to mental disorders, and, if the lesion be situated in such a way as to affect the psychic and avoid the motor regions of the brain, it will produce mental disorder without paralysis, *i. e.*, a true insanity: again, if such brain disease be wide-spread, involving the whole cortex, it will cause a progressive mental disorder resembling the so-called general paralysis of the insane, or dementia paralytica.

As a man having syphilis may have a disease which is not directly due to the syphilis, when a syphilitic person has any disorder, there is only one positive way of determining how far said disorder is specific, namely, by studying its amenability to anti-syphilitic treatment. In approaching the question whether a lesion found after death is specific or not, of course such a therapeutic test as that just given is inapplicable. We can only study as to the coexistence of the lesion in consideration with other lesions known to be specific. Such coexistence of

course does not absolutely prove the specific nature of a nutritive change, but renders such nature exceedingly probable.

What has just been said foreshadows the method in which the subject in hand is to be here examined, and the present chapter naturally divides itself into two sections: the first considering the coexistence of anatomical alterations occurring in the cerebral substance with syphilitic affections of the brain membranes or blood-vessels, the second being a clinical study of syphilitic insanity.

Medical literature contains a sufficient number of cases[1] in which cerebral sclerosis was found after death to coexist with undoubted specific lesions of the brain membranes and other parts of the body, to demonstrate that sclerosis of the brain substance not only may coexist with a brain lesion which is certainly specific in its character, but may also present the appearance of having developed *pari passu* with that lesion, and from the same cause.

Cerebral meningeal syphilis may coexist with various forms of insanity; and it is probable that in some of these cases there has been that double lesion of membrane and gray brain-matter; further, if there is a syphilitic insanity, which exists without evidences of meningeal syphilis, and is capable of being cured by anti-specific treatment, such insanity must be considered as representing the disease of the gray matter of the brain.

[An analysis of twenty-three cases of this character was then given by Dr. Wood, but is here omitted for want of space.—ED.]

Of all the forms of insanity, general paralysis is most closely and frequently simulated by specific brain disease. The exact relation of the diathesis to true, incurable, general paralysis, it is very difficult to determine. It seems well established that amongst persons suffering from this disorder, the proportion of syphilitics is not only much larger than normal, but also much larger than in other forms of insanity.

Those who suffer from syphilis are exposed in much greater proportion than are other persons to the indirect causes of general paralysis: but I think we must recognize as established, the opinion of Voisin that there is a syphilitic periencephalitis which presents symptoms closely resembling those of general paralysis. Such cases are examples of the pseudo-paralysie générale of Fournier.

The question as to the diagnosis of these cases from the true incurable paresis is, of course, very important.

The points which have been relied upon as diagnostic of syphilitic pseudo-general paralysis are:

The occurrence of headache, worse at night and present amongst the prodromes.

An early persistent insomnia, or somnolence; early epileptiform attacks.

The exaltation being less marked, less persistent, and perhaps less associated with general maniacal restlessness and excitement.

The articulation being paralytic rather than paretic.

The absence of tremulousness; especially of the upper lip (Fournier).

The effect of anti-specific remedies.

[1] Analyses of a number of these cases were given.

The absence, however, of these marks of specific disease is not proof that the patient is not suffering from syphilis.

I have seen symptoms of general paralysis occurring in persons with a specific history, in which, of these so-called diagnostic differences, the therapeutic test was the only one that revealed the true nature of the disorder. In these persons a primary, immediate diagnosis was simply impossible.

In conclusion, I consider, as proved, that syphilis may produce a *disorder whose symptoms and lesions do not differ from those of general paralysis; that true general paralysis is very frequent in the syphilitic; that the only perceptible difference is one of curability; that the curable sclerosis may change into or be followed by the incurable form of the disease.*

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, February 21, 1884.

THE PRESIDENT, FORDYCE BARKER, M.D., LL.D., IN THE CHAIR.

DR. JOHN C. DALTON, President of the College of Physicians and Surgeons, read a paper on

THE DIFFERENCES IN FORM OF THE ADULT HEAD.

A short time ago, he said, he had been interested in a new method of comparing the differences met with in the adult human head, viz., by means of the paper patterns employed by hatters. By the use of the well-known brass apparatus employed by them to take the outline of the head at the level at which the hat was worn, a diagram of the shape of the head, on a diminished scale, and marked out by a series of perforations, was secured. This was then transferred to another machine, by means of which two and one-eighth inches were added on all sides, and the outer circle of upright rods constituted the mould upon which the hat was fitted. A great variety of outlines of heads could thus be made, and he had secured three hundred and sixty of them from one shop in New York. Dr. Dalton then had passed around the room a couple of frames, in which were exhibited a number of paper patterns, exhibiting the most striking differences and variations; explaining that these were somewhat exaggerated in length as compared to breadth, on account of the fact that in the reduced diagrams two and one-half inches were taken off all around, and this would have the effect mentioned.

In regard to the general shape of human heads there were two great classes, the long and the round. A medium head would be represented by the figure 125 for the length and 100 for the width. Taking 100 for the standard of width, all between 120 and 130 in length were medium heads, all above 130 long heads, and all below 120, round heads. Different heads varied greatly in regard to the relative width of the back and front parts, in regard to being curvilinear throughout or presenting some angles and straight lines, and in the symmetrical or asymmetrical character of the two sides. To illustrate these points, Dr. Dalton exhibited a series of eight paper patterns, representing the exact size and outlines of eight different heads. The first was regular

in shape, presenting a curvilinear and comparatively symmetrical oval, which resembled in its general outline that of an egg, with the larger end behind, and the smaller in front. The second presented a squaring of the front part of the head; the temples being decidedly flattened. In many individuals there was actually a hollowing out of the temples, and difficulty was consequently met with in securing a well-fitting hat. In the third, the square front was still visible, but the occiput was not rounded, as in the other two, being somewhat elongated. Consequently the long head was beginning to appear, instead of the medium, and in this instance the length was 135. In the fourth, the extreme of elongation was reached, so far as had been met with by Dr. Dalton, the length being 153. In the fifth, however, there was a round head, which was literally symmetrical, and having the proportion of the length as to the breadth of 108 to 100. In the sixth, the length was 117, and here the occiput was seen to be wider and the front part of the head narrower than in the others. No. 7 was remarkable as being the most unsymmetrical of all; and in No. 8, the length was 128, while there was a broad occiput.

One of the most prominent features in almost all of them was the want of symmetry. This was not always apparent at a distance, but if the paper pattern of the head was doubled, the difference between the two sides could at once be seen. When this test was applied to them all in turn, No. 6 was found to be the most nearly symmetrical. No. 7 was found to overlap towards the front on one side and towards the rear on the other. Want of symmetry, then, was the rule, and Dr. Dalton said he had never yet seen an absolutely symmetrical head. The same thing was true also of the brain, and this fact was one of the first things that would strike anyone engaged in making sections of the organ. If the attempt were made to pass a knife down in the median line, between the two hemispheres, the convolutions of the opposite sides would be found often to overlap, while the cerebellum would be more or less twisted as regards the cerebrum; so that it would be impossible to make a symmetrical section. Again, if a series of vertical sections were made with the utmost care from before backward, it would always be found that one lateral ventricle was opened before the other. All this was not surprising, however, when it was remembered that no face was symmetrical. The student was, therefore, liable to be somewhat misled by the plates and drawings which he was accustomed to see, which always represented the two sides of the brain as perfectly symmetrical.

There were one or two matters of interest connected with this subject, Dr. Dalton went on to say, and one was the fact that these diversities in symmetry were always in one direction. There was to be noted, as a rule, a decided preponderance towards one side, and consequently an apparent twisting of the head in that direction. Thus, if the occiput were flattened on one side, it would be found that the temple would be flattened on the other. In several cases a twist towards the left side was marked, and out of twelve instances in which the head was perceptibly twisted, in nine the obliquity was towards the left, and in only three towards the right. This inclination to the left, therefore, seemed to be marked in the crania met with in New York. Whether the same would hold true of the heads of persons living in other parts of the world, he was unable to say. A similar remark would apply to the relative proportion of the long and short axes of the head. In New York there was a decided preponderance of the long head. He had found that 64 per cent. of the heads studied were medium, or with a long diameter between 120 and 130. Below 120 there were 10 per cent., and above 130 26 per cent.; so that the long heads outnumbered the round ones in the ratio of at least 2½ to 1. In other countries the results might, of course, be different.

These differences between the two sides of the same head and between different heads are of interest, again, in connection with the hypothesis which was now very generally accepted, that all parts of the brain did not have the same functions. The doctrine of cerebral localization recognized that the gray matter in some parts of the brain performed different nervous actions from that in other parts. There are, thus, motor centres and perceptive centres, and it was believed that this difference in function was connected with a difference of structure; the cells of the motor tract, for instance, being different from those of any other part in character and arrangement. From the external examination of a long head it might very naturally be supposed that there was a larger quantity of gray matter in the cerebral substance than in a round one, because a long one presented a surface of greater extent than a short one. This might, indeed, be true if the external surface of the brain was smooth. On the contrary, however, we know that the cortical layer of brain tissue was not smooth, but convoluted; and in the brain contained within a round head the fissures might be deeper, and the foldings more numerous and complex than in one belonging to a long head. The shape also varied in other ways, as in the length of the vertical diameter, and, therefore, we could not conclude that because a head was round and compact, the brain contained less gray matter than a long one.

There was still another consideration of even greater importance. The motor centres might be precisely the same in structure, while the fissures might be either deep and narrow, or shallow and broad; so that there might be exactly the same amount of gray matter in two brains which were of very different form. These points were worthy of consideration, he thought, when it was remembered that differences in form might be due purely to external causes. In certain tribes of Indians it was well known that the heads of the papooses were artificially compressed in certain directions, and, consequently, as the head increased in size, it would, of course, grow in those directions in which this resistance was not opposed. The result thus obtained was simply an exaggeration of the natural differences which had now been pointed out. Among the Cherokee Indians the front part of the head was compressed, so that there was apparently no forehead, while among the Natchez the back part of the head was compressed, so that from the external form one would say that there was no occiput or cerebellum; yet as regards function there was absolutely no difference between the brains in the two forms of heads.

THE PRESIDENT remarked that he had not known, beforehand, in what direction the investigations of Prof.

Dalton would lead, and he had not therefore prepared himself specially to make any contribution to the subject now before the Academy; but he thought it might be of interest in connection with it, to recall that some years ago, probably fifteen or twenty, the *Obstetrical Journal* had published a number of papers by Mathews Duncan, and other writers of eminence, in regard to the influence of parturition in forming the shape of the human head. To obtain what light he could upon the matter from a practical investigation, he made some inquiries in connection with the lying-in department of Bellevue Hospital, with the aid of the House-staff. During a service of nine or ten months, the heads of one hundred and thirty-two infants were examined immediately after birth, and again at the expiration of eight days. As was well known, about eighty-five out of every one hundred children born, presented with the head in the left occipito-anterior position, and that during the process of parturition, especially in tedious labors, the form of the head became moulded and adapted to the maternal parts and often greatly changed. There was great compression of the long diameter, and a corresponding dilatation of the short; while there was a marked bulging out of the right side of the head to fill the unoccupied space left in the right oblique diameter of the pelvis. Of course, the pressing out of the head would be in the opposite direction in the right occipito-anterior position. At the time mentioned, the question was discussed a great deal, whether this compression during labor permanently influenced the head or affected the functions of the brain afterward. In the investigation made at Bellevue Hospital, it was found very generally that the disproportion between the two sides of the head which was noted immediately after birth, had disappeared by the end of eight days, but in some instances this disproportion was more or less prolonged. Dr. Barker said that if he saw a child (whose delivery he himself had not attended) within forty-eight hours after birth, he could almost invariably tell from the shape of the head whether the occiput had pointed towards the right or the left, provided there had been an anterior position of the vertex. In posterior positions the case was different, on account of the rotation which was requisite before the head could be born. Whether any difference in function was occasioned by the compression and change of shape resulting from parturition, he was not prepared to say. There was another point to which he would call attention for a moment. He would like to know whether if, ten years from now, Dr. Dalton presented diagrams of the same heads which he had to-night, the outlines would be precisely the same as at the present time. For his own part, he felt pretty sure that the form of the head changed more or less in adult life, and more at an advanced period of life. He had been led to this opinion by the fact that his hatter had found, in his own case, that his head changed from time to time.

DR. LEONARD J. CORNING considered the researches of Dr. Dalton of deep interest because, in the first place, they showed a most perfect method of investigating asymmetry of the cranium; and, secondly, on account of the inferential remarks which he had offered in regard to the possible effects resulting from differences in symmetry. His idea that external compression did not have the effect of causing a dwarfing and atrophy of the portion of the brain beneath, but that these parts were simply pushed into other locations was a very suggestive and valuable one, he thought. The hypothesis that the form of the brain had not so much to do with its functions as the amount of surface presented by the gray matter, whether spread out over a wide area or over deep and complex convolutions was one that was fraught with the deepest interest. It was exceedingly common at the present day to bring up at criminal trials, where the sanity of the prisoner was in question, the idea that asymmetry of the head indicated an unbalanced brain, and he thought that a great deal of capital had been made out of this without any measurable basis of facts upon which to found data. In the case of Guiteau, for instance, he had never been satisfied as to the validity of the argument that because his head was asymmetrical he was not of sound mind; and he thought, therefore, that Dr. Dalton had rendered to science a very valuable service in advancing this hypothesis. It seemed to him that it was plain that there might be flattening in one part of the cranium and protrusion in another, and yet the organs beneath be presumed intact; and he thought, therefore, that weight had been attached to this matter of asymmetry which was not warranted by facts.

DR. DAVID WEBSTER said that in his own case he had noticed that he required, from time to time, slightly different sizes in his hats, but he had supposed that this was probably due to the amount of thickness of the hair at the time. He would like to inquire whether Dr. Dalton had noticed any changes in adult heads.

DR. DALTON, being called upon to close the discussion, said that this idea of changes in the adult head suggested by Drs. Barker and Webster, was a new one to him, but it was a very interesting one, and one that he would like to see investigated. It was well known that other parts of the body differed very materially as life advanced, and it was quite possible that this might be the case with the cranium also. It seemed to him extremely probable, from what Dr. Barker had said, that the twist which the head of the child received during parturition disappeared shortly after birth, but that in a few cases the obliquity remained permanent. As the result of his investigations, he would say that we could not conclude from the existence of asymmetry in the cranium that there was a corresponding difference in the brain itself.

DR. P. A. MORROW then read a paper entitled

AN IMPROVED METHOD IN THE TREATMENT OF CERTAIN FORMS OF SKIN AFFECTIONS.

The method referred to, he said, was the application of medicinal substances by means of fixed adhesive dressings. Among these dressings were the application of drugs in combination with collodion and gutta-percha, and by means of gelatine, which could be rendered more pliable by the addition of glycerine, then painting a layer of the medicinal substance required over the part and covering it with a layer of collodion, and the incorporation of the drugs with adhesive plaster, the basis of which was gutta-percha. There was nothing of novelty to dermatologists in all this, but the method had only come into use within the last year or two, and since it was not alluded to in any of the text-books on diseases of the skin, he thought that it might be of interest to the

profession at large to present it. He claimed nothing original in what he had to say, except so far as his own experience confirmed the observations of others, and his aim was simply to present, in a brief manner, the mode of preparation of the dressings alluded to, the conditions in which they were appropriate, their therapeutic value, and the clinical results which had been obtained by their use.

This method of making fixed adhesive applications, he believed, was undoubtedly a decided advance in the field of cutaneous therapeutics. The old modes of applying medicinal substances, while admirably adapted for their purpose in many respects, and still the best in a large number of cases, had certain disadvantages. Thus, when drugs were employed in the form of powder, the powder was easily rubbed off, and if applied over an exuding surface an irritating crust was very liable to be formed; while lotions quickly evaporated. The ointment had, as a rule, always been the most efficient and convenient form in which to make applications to the skin; but this, too, was easily rubbed off, and was in a measure a cumbersome and uncleanly dressing. Dr. Morrow then quoted a passage from Erasmus Wilson in regard to the influence of fashion in cutaneous therapeutics. At one time there was a great outcry against the use of all sorts of unguents, and the water-dressing was unduly lauded. The ointment, however, survived the attacks made against it, and again came into general use; but still it would always be open to the objection of uncleanliness, and of being offensive to the taste of the fastidious. Again, it was impossible to give ointments sufficient solidity to exclude the air, and by diffusing themselves over healthy skin in the vicinity of the lesions to which they were applied, they were very liable to propagate disease. At the same time, he did not mean to detract from the real and substantial efficiency of this kind of application, for which in many conditions no equally good substitute had as yet been found. The fixed dressing was not designed to revolutionize the treatment of skin disease, but simply to supplement the older methods in use, and its application was without doubt comparatively limited.

Dr. Morrow then went on to say that cutaneous pharmacy had not kept pace with that of internal medication, but of late much improvement in this respect had been noted. He then enumerated some of the drugs which, during the past few years, had gained repute in cutaneous therapeutics, such as chrysarobin, pyrogallic acid, salicylic acid, iodoform, and naphthol. Some of these were very powerful agents, and it was necessary not only to be familiar with their properties, but to know how to use them. Chrysarobin was undoubtedly the most efficient remedy now at our command for the treatment of psoriasis, especially in chronic cases and those which had resisted other forms of treatment. Its range was limited, however, as it was contraindicated in acute cases generally, in children, and in patients with tender and irritable skins; while if applied to the head it was apt to produce puffiness of the face and eyelids and conjunctivitis. As ordinarily applied, it was very irritating to the surrounding skin, discolored the hair, and stained the clothing and everything with which it came in contact. So successful, however, was the effort to obviate these inconveniencies and injurious effects by combining the remedy with collodion and gutta-percha —for which the credit was largely due to Dr. George H. Fox—that it led to the combination of a number of other drugs with the same class of substances, and to the establishment of fixed adhesive dressings as a recognized method of treatment in diseases of the skin. The medicated collodions had the advantage of being always ready for use, as well as perfectly cleanly. Pick, of Prague, was the first to make use of gelatine for the same purpose. Fifty parts of gelatine were dissolved in a hundred of water, and to this the medicament to be used was added. When the preparation was to be applied, it was first placed in a convenient vessel and dipped in hot water. This constituted an admirable and flexible dressing, and it could easily be removed by the application of hot water. Pick claimed that it had the advantage of being transparent, so that the lesion under treatment could be viewed through it. This transparency, however, Dr. Morrow had found a rather uncertain element, depending upon the drug which was combined with the glycerine. Unna, of Heidelberg, had modified Pick's gelatine dressing by adding to it five, ten, fifteen, or twenty per cent. of glycerine, according to circumstances. Dr. Mitchell, of Philadelphia, now manufactured gelatine plasters of various kinds, with which he had obtained very satisfactory results. The only objection that he had found to them was that they sometimes deteriorated by keeping; but he thought that this difficulty could probably be easily obviated by the addition to them of a small quantity of salicylic acid, or other antiseptic. Those which he at present was using were made by Messrs. Hays & Sons, of New York. Prof. Auspitz had devised a useful dressing which he designated *traumaticin*. It was a ten per cent. solution of refined gutta-percha dissolved in chloroform, and resembled the *Liquor guttæ perchæ* of the United States Pharmacopœia. It was claimed for the traumaticin that it was a delicate, neutral, durable, and invariable dressing, which was more elastic than gutta-percha plaster. The latter was a decided improvement over the ordinary lead and resin plasters, and was of especial service in certain localized disorders affecting the hands and fingers, the crease of the thigh, the toes, the anus, etc.

Dr. Morrow next proceeded to speak of the verdict of clinical experience in regard to the new methods. In psoriasis, he said, the results obtained by the use of chrysarobin in connection with them had proved eminently satisfactory. He spoke of the success achieved with it in the treatment of chronic eczema, prurigo, tubercular syphilis, and other affections by Auspitz, Benier, R. W. Taylor, and others. He also mentioned some of the results obtained, in Europe, with naphthol, salicylic acid, and other remedies, and said that iodoform collodion was used in immense quantities at Billroth's clinic. He then spoke of his own experience, and said that in psoriasis, as well as in chronic eczema with excessive pruritus, he had for the most part met with very satisfactory results with chrysarobin. In acute eczema he had been much pleased with the use of a gelatine dressing containing ten per cent. of oxide of zinc, and he related a case of chronic eczema of the face with extreme itching, in which a single application of this, with the addition of one per cent. of carbolic acid, gave complete and instant relief. Each form of application which had been mentioned, he said, had special advantages in certain cases and conditions, and

he then gave a summary of the advantages of these methods somewhat as follows:

1. The complete protection of the part, and exclusion of air.

2. The securing of the direct action of the drug employed upon the parts affected.

3. The maintenance of a gentle and uniform compression.

4. Complete cleanliness.

The following general conclusions were reached by Dr. Morrow:

1. The adoption of the method of fixed adhesive applications marks a decided advance in cutaneous therapeutics.

2. It is admirably adapted for certain special purposes.

3. It constitutes the most efficient means of treating hyperæmic conditions accompanied by epithelial aggregations, derangements of the capillary circulation in certain neurotic conditions, and in circumscribed lesions generally.

DR. BRONSON said that what he particularly admired in Dr. Morrow's paper was the conservative manner in which he had dealt with the subject. The method under discussion was now the fashion, and the chances were that the thing would be overdone. The writer had said almost all that there was to be said upon the subject, and he had done it well. The method was not one capable of universal application. In regard to the gelatine preparations, he differed somewhat from Dr. Morrow, as he considered them of comparatively little value. It was quite difficult to prepare them for convenient application; but the case was different with the gutta-percha and collodion preparations, which were easy to apply, and which he thought would, in time, entirely supersede the gelatine of Pick. He could fully endorse Dr. Morrow's statements in regard to the efficacy of the method in general, and he believed that it was best suited to diseased conditions in which there was a certain degree of thickening and the presence of an accumulation to be removed. He did not think the value of the preparations mentioned depended on the protection which they gave so much as on the facilities which they afforded for coaptation of the remedy to the part affected. There was another disadvantage connected with the use of the gelatine, more particularly in cases in which there were fissures, which he had neglected to mention, and that was that it acts too quickly. Chrysarobin or chrysophanic acid required to be rubbed in very thoroughly, and while the use of the gutta-percha and collodion permitted this, with the gelatine there was not time for it. In addition to psoriasis, he considered this remedy of special value in two affections: in eczema of circumscribed area, without much weeping, and characterized by marked itching, and in lichen planus, attended with intense itching. Carbolic acid could be employed in very much greater strength when combined with these fixed dressings than in any other way.

DR. G. P. JACKSON said that he had found so much difficulty in applying the gelatine preparations that he had now given them up, and in the few cases in which he had used them the results had not proved satisfactory. The collodion preparations he had employed with success, particularly in psoriasis and eczema.

DR. SHERWELL, of Brooklyn, thought that there would be difficulty in applying these medicated preparations in certain circumstances, as, for instance, the gelatine over exuding surfaces, or the collodion upon the hairy scalp.

DR. MORROW then closed the discussion. Dr. Bronson's criticism in regard to the gelatine preparations, he said, might be reasonable from his stand-point, but he himself did not find any inconvenience in using them. Their efficiency depended largely on the careful preparation of the glycerine and gelatine, as well as the drugs used in combination with them. The first preparations which he had employed were all defective, and if he had rested content with this first experience, he would, no doubt, like Dr. Jackson, have given up the use of gelatine altogether. With those which he now used in his practice he secured an admirable elastic coating, which remained for a number of hours. With regard to Dr. Sherwell's objection to using gelatine over exuding surfaces, the difficulty was merely a theoretical one, which he himself had anticipated before applying it under these circumstances, but which he had found by experience did not exist practically. He thought that as the pharmaceutical preparations became more perfect, gelatine would be more generally used than it was now.

As to the difficulty of applying collodion or gutta-percha to the hairy scalp, if the affected part were not free from hair, as was likely to be the case, it was his custom to have it shaved or the hair cut close with the clippers used by barbers. He had not ventured to apply chrysarobin to the scalp after one or two unfortunate experiences which he had had with it; although when used in combination with these fixed dressings he believed that no ill-effects would result from its use in this position. There was a theoretical objection that with a layer of gutta-percha or collodion between the drug and the diseased surface, the remedy might not produce its appropriate effects; but practically it had been found that this was not at all valid. A parallel case was seen in the vesicating action of cantharidal collodion, and another proof was seen in the case that Pick had reported, in which systemic poisoning was produced by pyrogallic acid applied by this means.

CORRESPONDENCE.

"A YEAR'S WORK IN OVARIOTOMY."

To the Editor of THE MEDICAL NEWS.

SIR: I thank my friend, Dr. Sutton, for correcting a careless slip of my pen, and for the explanation of his remarks from which the misquotation was made. I also wish here to beg Mr. Tait's pardon for misrepresenting him. Yet, in self-defence, let me say that I think that my interpretation of Dr. Sutton's remarks was not altogether an illegitimate one. The inference that I drew from them was, until explained otherwise by Dr. Sutton, that Billroth was the only European operator who did not refuse any case of ovarian tumor, however unpromising it was.

Dr. Sutton's remarks are as follows: "Dr. Keith employs only one assistant, and Mr. Tait uses one. In Billroth's clinic there are a great number of assistants, but it must be recollected that he refuses to operate upon nothing that deserves the chance of life, and his

statistics approach more nearly to the statistics of our own country than those of any other operator abroad. Sixty-five per cent. of recoveries are about as good a showing as he can give in laparotomy. But I will say this: That in no place did I see such cases operated upon as were operated upon by Billroth. He operates upon everything. So far as Mr. Tait is concerned, he *does* not remove *many* [the italics are mine] large tumors—those which weigh from sixty to sixty-five pounds, with extensive adhesions, etc." [1]

I fully agree with Dr. Sutton, that private hospitals are better places for abdominal operations than the patient's own home. Yet, the greater mortality of those of my cases operated on at their homes, I attribute less to hygienic causes than, first, to the extreme prostration of the women who, after several tappings, were too ill to travel; secondly, to my being assisted by those who were not familiar with the technics of the operation; and, lastly, to my not having the after-care of these cases.

Very respectfully,

WILLIAM GOODELL, M.D.

February 27, 1884.

NEWS ITEMS.

CINCINNATI.

(*From our Special Correspondent.*)

BURKISM.—Never in the history of this city have the annals of crime exhibited so many or such brutal murders, as during the past winter. The last of tnese, a triple murder, has kindled in Cincinnati much the same furor as was aroused in Edinburgh, in the early part of this century, when first the crimes of the infamous Burke became known.

On the afternoon of February 15th, a negro who has been engaged for several years as a resurrectionist, called upon the Demonstrator of Anatomy in the Medical College of Ohio, and offered to bring him three subjects. Early the same evening he went with an accomplice, to the house of an aged colored man, who lived with his wife and an adopted daughter, in Avondale, in the suburbs; these three they killed and immediately took their bodies to the college, firing the house to conceal the crime. The marks of violence upon the bodies were not sufficient to attract attention without closer examination than is usually given to subjects when received, and the suspicions of the Demonstrator were not aroused until almost a week after; he was notified by the police that no bodies had been found in the burned building, and he was asked to examine any bodies he had received for marks of violence. He then notified the authorities, and has since identified the negroes who sold him the bodies. These have confessed the crime. The newspapers, particularly one or two sensational sheets, have been ever since filling their columns with abusive articles, intended to injure as much as possible, not only the Demonstrator, who unfortunately is so immediately involved in the case, but also the entire Faculty and the College itself.

During the last few years a large part of the material has been provided by a Practical Anatomy Act, which permits the giving of unclaimed bodies to the colleges, and it is believed the supply thus provided for would be sufficient to meet the demand, but the authorities of many of the public institutions appear determined to avoid complying with the law. The necessities of medical education, therefore, have made it customary to receive bodies from resurrectionists as well. Now that legislation on medical questions is becoming the fashion, we may perhaps have an amendment to the Act, so as not only to permit but to compel the giving of bodies to the colleges, and thus make the law similar to that which now prevails, with such excellent results, in Pennsylvania.

[1] Transactions of the American Gynecological Society, vol. viii. p. 84.

CHICAGO.

(*From our Special Correspondent.*)

RUSH MEDICAL COLLEGE.—The annual commencement exercises of Rush College occurred on the 19th instant. The number of graduates was one hundred and sixty-seven, one receiving the honorary degree. The gentleman on whom this was conferred was Dr. A. L. Justice, of El Paso, Texas.

The Alumni of the College were entertained in the evening at a banquet at the Grand Pacific Hotel. Four hundred alumni and friends of the College sat down to this dinner. Subsequently a life-size portrait of President J. Adams Allen was presented to the Faculty.

The hospital, which was begun by the Trustees of Rush College, adjacent to the College building, has been transferred to the Presbyterian order, and will be known as the "Presbyterian Hospital." It is being rapidly pushed forward to completion, and ought to be ready for occupancy in eight weeks. The College Faculty retains professional control of it.

SCHOOL OF OPHTHALMOLOGY AND OTOLOGY.—The medical staff of the Illinois Charitable Eye and Ear Infirmary, located here, have established a school of ophthalmology and otology for practitioners. The course of instruction will consist of didactic lectures and drill, and daily attendance upon the service of the Infirmary, which offers the amplest possible clinical opportunities. Probably more than two hundred different patients are treated each day in the rooms of this institution. Of these, slightly more than half are out-patients. The staff consists of Drs. Holmes, Hotz, Ware, Montgomery, Schaefer, and Bishop, surgeons; Drs. Gardiner, Bettmann, Gilmore, Colburn, Harper, Kewley, and Morgan, assistant surgeons.

ANATOMICAL MATERIAL AND THE ANATOMY ACT.—Perhaps at no time before, in Chicago, has there been so much public talk and discussion of the subject of anatomical material as this winter. The colleges have had some difficulty in procuring a sufficient supply, but have generally succeeded, and their classes will go out having fulfilled the requirements as to dissections. There is a State law which permits the bodies of unclaimed paupers to be used for anatomical study. For ten years the law has been in operation, and the colleges have not been under the necessity of obtaining material elsewhere till this season. Now the County Commissioners who elect, and hence control, the wardens of the county hospital and county almshouse, have forbidden these officials paying respect to the law on pain of dismissal. As a result, the colleges have to pay high prices for

material, which has led to activity among those willing to engage in the business of procuring subjects. Two medical students are now in jail in DeKalb County for resurrecting. Their case is peculiarly unfortunate, because, if they are guilty, their conduct was both unnecessary and reprehensible. The bodies of two persons well known were stolen and brought to Chicago. Their discovery in the colleges here led to much excitement.

MUNICH.

(From our Travelling Correspondent.)

THE HYGIENIC INSTITUTE IN MUNICH was the first one built in Germany for the practical teaching of hygiene, where it could be taught in an objective manner, and where students could be made familiar with the various procedures, modes of investigation, etc., involved in its scientific study. Now there are three or four similar institutions in various places in Germany, a large one is being built in Vienna, and Prague will probably have two, one for each university. The building in Munich is a handsome brick structure, and cost when complete eighty thousand dollars. The course of study given in the Institute is not obligatory on the medical students; only those intending to enter into the service of the State being obliged to pass a practical and theoretical examination in hygiene. The course given to such students is a rather thorough one, embracing the study of the air, water, ground, clothing, food, etc., in their relation to health. The examination of the ground with reference to its moisture, the height at which the ground water stands, the organisms it contains, receives here great attention.

THE SPREAD OF LOWER ORGANISMS IN THE GROUND.—A very interesting series of experiments have just been concluded by one of the assistants, on the spread of lower organisms in the ground, their ascent from a depth below the surface to the surface, and the circumstances which favor or are inimical to this. A flask of sterilized nourishing solution was connected by a glass tube containing sterilized earth of a known composition, with another flask which contained a fluid containing certain definite bacteria. The sterilized flask was above the other, and the end of the tube containing earth projected above the surface of the fluid; the other end passed into the fluid containing the bacteria. By placing some of the earth from the end of the tube in the sterilized solution, it could easily be seen when it contained organisms. These, of course, could only have ascended through the earth. As the bacteria used were a known and easily recognized species, there was no danger of mistaking an accidental infection for the result of the experiment. It was found that conditions favoring capillary attraction, the fineness of the particles of earth, also most favored the ascent of the organisms.

These experiments are, of course, of especial interest in regard to the ascent of pathogenic bacteria from the body of the cadaver to the surface of the earth. Pasteur, as is well known, sought to account for this by his rain worm theory, that the worms in their passage through the soil ate the spores, and on reaching the surface discharged them in their moulds, a theory which was certainly very brilliant in its conception, but not supported by facts.

In the investigation of water, besides its chemical constitution, particular study is made of the organisms contained in it. Pure cultivations of these are made after Koch's gelatine method, and then they are studied as to their physiological action by inoculations on animals.

RELATIVE VALUE OF THE VARIOUS CLOTHING TEXTURES.—Another of the assistants was carrying out an elaborate system of experiments on the relative value of the various clothing textures, especially with the so-called normal clothing of Dr. Jäger. This consists entirely of woollen materials, the stockings, drawers, and undershirt being made in one piece. Every toe in this remarkable garment is enclosed in its own particular —well we can hardly say toe, nor even finger, but the stockings are like gloves. Over this a woollen shirt is worn, and the outer clothing is made out of a particular woollen cloth, and the coat and vest button close up to the chin. The clothing may be immensely comfortable and healthy, but it is not handsome. The experiments were to determine how much real value the system had.

THE CHOLERA EPIDEMIC IN EGYPT.—The following account of the recent cholera epidemic in Egypt, and the means employed for its suppression, has been furnished to the State Department by the Consul-General at Cairo, and forwarded to the Marine-Hospital Service for its information:

"With reference to the painful and widespread epidemic which affected all classes of the population of Egypt last summer, I beg to submit to you the following carefully made observations respecting its development and character.

"I must begin by saying, Egypt is a country in which hygienic or sanitary regulations have for a long time been, and still are, entirely neglected. There obtains here a condition of things most unfavorable to health, due to the apathy and almost criminal negligence of the authorities, and to the habitual want of cleanliness of the native population; that which is unclean and impure, the dregs and refuse of dirty water, are deposited in the public streets, the open squares, and narrow passages of all the towns and villages in Egypt. The construction of underground conduits or sewers to carry away water and impurities was never projected in any Egyptian town or village. The inevitable consequence was, that in the houses of the natives most unhealthy and impure elements have been prevalent for a prolonged period. In the respectable European quarters of the towns is there only an exception of the regulations for the protection of the public health.

"The Nile Delta, by reason of its well-known insalubrity, would be a district of permanent abode for contagious disease if the great heat which is so prevalent did not counteract miasma, and if the clear air of the desert did not, likewise, frequently and thoroughly purify the atmosphere.

"Since the reign of Mohammed Ali, the first Viceroy of Egypt, sanitary regulations and ordinances for protection of the public health have often been promulgated, and the efforts of European physicians exerted to ameliorate this condition as far as the popular and re-

ligious sentiments of the country would permit. But since the revolt of Arabi Pasha against the constituted authority, when most of the European functionaries were removed from office in order to make room for incapable natives, the direction and control of the sanitary public passed into the hands of Arab doctors, whose want of knowledge and venality interfered with its efficient working. Previous to 1879, the year in which Tewfik Pasha, the present Khedive, ascended the throne, the Sanitary Board in Alexandria was under the direction of a European doctor and a representative European council, lay and medical.

"As already explained, about three years ago, the sanitary service became an arrangement of purely native origin, and was stationed in Cairo. A sanitary maratime and quarantine council, composed of delegates from the different consulates, and under an Arab director, was likewise formed in Alexandria after a protest of the consuls in that city who are in the service of the various European States. The council of Alexandria does not examine or consider matters which relate to the discovery and application of remedies for diseases. Its sole purpose is to prevent the sudden appearance in Egypt, from foreign countries, of epidemics, and, in such an event, to order the necessary preventive measures to be taken. Such was the condition of the public health, and such the character of the sanitary authorities, when the cholera broke out at Damietta, towards the end of June last.

"Cholera has invaded Egypt in the form of a great epidemic five times since its first appearance, which occurred in the year 1848. It had always been introduced from Asia, especially from India, which is its natural home. Several times cholera has made its appearance in adjacent countries. And two years ago it was even brought into Egyptian territory by pilgrims from Mecca; but, owing to the strict precautions taken, and to quarantine regulations, this country escaped the dreadful calamity.

"In 1883, some very adverse circumstances contributed to the introduction of cholera into Egypt and to its rapid development. The insurrection which broke out in June, 1882, made worse the bad hygienic condition of the country. This was followed by epizooty, a strong bovine typhus, which was prevalent to the end of November, 1883. Thousands of animals fell victims to said disease, and many hundreds, not to say thousands, of them were thrown and left to decay in the canals, the waters of which were made use of to irrigate the fields and to meet the daily necessities of the neighboring population for drinking purposes. These are the acknowledged causes which have subjected Egypt to this baneful and troublesome epidemic. Its invasion is to be ascribed to the policy adopted by the British authorities, who never permitted any restrictions to be used by the Egyptian sanitary authorities which would interfere with their Indian trade; consequently, the Government of Egypt was compelled to allow the free passage of vessels engaged in the trade through the Suez Canal, and to stop at its different ports.

"During the months of May and June of last year, there was at Bombay and Calcutta a recrudescence of cholera, which had a tendency to assume an epidemic form. The sanitary maritime and quarantine council at Alexandria having been apprized of the impending danger, and energetically pressed by the Turkish sanitary authorities at Constantinople, proposed some measures and quarantine regulations to be applied to all vessels coming from India. But the English government, whose influence in Egypt is unlimited, has, in several ways, prevented the execution of the projects of the above-mentioned council of Alexandria, and, in consequence, every vessel arriving from India had free communication with all ports of the Suez Canal. This unrestrained and direct communication of Egypt with countries in which cholera prevailed, was the real cause of the importation of the disease.

"Another and a local cause of the development of this malady and its rapid spread, was occasioned by the following circumstances: Damietta, where the cholera last year first appeared, is an exceedingly unhealthy town. The exhalations there from decaying matter cause, every summer, ophthalmia and dysentery. It is also subject, during spring and summer, to the kamsin, a most oppressive hot wind, which carries with it clouds of dust and sand. When the cholera which, according to the official report, appeared at Damietta on the twenty-first of last June, in a very short time it became alarming in its progress. No remedies were employed. There was a thorough absence of medical attendance, and the poor natives, not knowing how to treat it, obstinately abandoned themselves to fate, and perished by thousands. About the middle of last June a great fair was held at Damietta, which attracted over fifteen thousand visitors from neighboring and distant villages. At the time this fair was held, several Indians visited Damietta for purposes of trade, and also a certain number of coalmen and firemen employed on English steamers coming from Bombay. According to authentic sources of information, these are the circumstances which favored the rapid development of this insidious disease.

"In conformity with the advice of native doctors, the Egyptian Government immediately formed sanitary cordons around the infected districts, in the hope of checking the spread of the epidemic. These sanitary cordons, however, served practically no purpose. They were insufficiently well organized, and could not prevent intercourse taking place with towns and villages where this pestilence prevailed. These cordons fell into disuse when the cholera, following the high roads of travel by river and railway, reached Cairo, whence it extended in length and breadth over Lower and Upper Egypt, with the exception of Alexandria, which subsequently was also invaded, and where, indeed, this epidemic proved to be less violent than elsewhere. This was due to the sanitary measures taken by the European Colony.

"On the first appearance in that city of this epidemic, there was formed a sanitary commission by the consuls and prominent members of the European Colony, presided over by a Minister or Governor, upon whom the Egyptian Government conferred full power to adopt effective measures for preventing the breaking out and progress of the disease. Owing to the pecuniary means placed at its disposal by the Government and private individuals, this Commission rendered great service to the inhabitants. In Cairo there were also two international commissions, based on the same principle as that of Alexandria, of which one was composed of ministers, English generals, and high functionaries, European and

native; the other one was formed of consuls of the different powers and prominent members of the European colony, and placed under the presidency of the prefect of police. This last commission has labored with the greatest energy and zeal in the execution of its task. It had at its disposal Government funds and full power of action. I must also state there were a number of doctors, engineers, and competent, useful men in these commissions who were adapted for this office of devotion.

"These commissions made every effort to promote the public health. They earnestly endeavored to free the towns and villages of all infectious matter, to establish hospitals and ambulances, regulate burials, inspect market-places, isolate those persons infected with cholera symptoms, and to destroy by fire those houses in which this disease prevailed.

"The cholera penetrated as far as Luxor, one day's journey below the first cataract on the Nile; more than sixty thousand of the inhabitants were made victims to this disease. For the purpose of examining the nature, origin, and method of medical treatment, the French and German Governments sent to Egypt medical commissions composed of eminent savants. The Russian and Turkish Governments sent delegates here for the same purpose; and the English Government was likewise represented by twelve medical men and twenty Indian nurses. These, however, arrived in Egypt too late to be of any service, and were of great expense to the Egyptian Government.

"As official delegate from England, Surgeon-General Hunter was likewise sent to Egypt during the prevalence of the cholera, and remained there for three or four weeks. In his official report to the English Government, he declared in a positive and peremptory manner that the cholera in this country was not introduced last year from India, but, on the contrary, had become a disease of an endemic nature; and as he could not deny the existence here of Asiatic cholera, he endeavored to prove that its germs had remained in Egypt, in a concealed state, ever since 1865, and that in 1883, the hygienic condition of this country being very bad, its germs had taken on a very unusual degree of intensity.

"These opinions of Surgeon-General Hunter, who is an expert and well-versed in his profession, are not shared by any medical practitioner here, much less by the commissions and scientific delegates of the European governments, who have expressed themselves frankly and clearly with regard to the character and the introduction of the cholera from India into Egypt last year.

"The English army of occupation, in Egypt, withdrew from towns where the cholera made its appearance and retired into adjoining deserts where the quarantine was enforced. By this means, exposure to the disease was in a great measure avoided. From a total number of seven thousand British soldiers stationed in this country, only one hundred and forty-six succumbed under this calamity.

"Until very recently a few sporadic cases were still reported in Alexandria; but everywhere minds have now recovered their settled state and calmness. And the careful thought of the government has been occupied in the reconstruction of the sanitary board, which during the disease, and even previous to its outbreak, manifested a very great incompetency. The public voice in Egypt has given expression to a sincere wish for the change and radical reform of the sanitary service. The first person who officially proposed a change of the sanitary board, was Surgeon-General Hunter, and afterwards the English Government.

"Mr. Clifford Lloyd recently appointed Under-Secretary of State for the Interior, and previously Inspector of Reforms in the Ministry of the Interior, elaborated a plan for reform of the Sanitary Service. By khedivial decree, an International Commission composed of foreigners and natives, has been appointed to consider this project, in compliance with which the Board of Health has been set aside, and in its place a Director of Sanitary Police appointed in the Ministry of the Interior, dependent in all matters upon the Minister, and having for assistance a Medical Council, which enjoyed the sole privilege to meet for consultation.

"By these means the Sanitary Service will be better looked after and conducted, in all that regards the public health of this country. Moreover, the Maritime and Quarantine Council of Alexandria, will remain permanently in existence as an International Sanitary Commission, and with the provision that its Director should be a European, and not a native doctor."

THE NEW YORK POLYCLINIC.—The Quarterly Circular Announcement of this school states that for the first four months of the present session one hundred and seven practitioners were studying in its special classes, while for the first fifteen months of its existence the classes have numbered over two hundred and sixty. The managers, encouraged by the success of the school, have purchased a large property, which they announce they will immediately convert into a thoroughly equipped clinical school and hospital. The Faculty hold seventy positions in the various hospitals and dispensaries of New York, and have in working order a clinical organization so large and complete that the supply of cases for study and demonstration they believe to be equal to every want.

THE GERMAN CHOLERA COMMISSION.—The Minister of the Interior, of Germany, has just received the fifth report of the Commission sent out by the Imperial Board of Health, first to Egypt, and then to India, to inquire into the causes and cure of cholera. The report establishes the fact that there is a close connection between the disease and certain bacilli of a specific character which were found with the aid of the microscope in the bodies of cholera patients.

SANITARY CONVENTION IN MICHIGAN.—A Sanitary Convention will be held in Hillsdale, Michigan, on Thursday and Friday, April 17 and 18, 1884, under the auspices of the State Board of Health.

THE GALLIGO PRIZE.—La Societa Medico-Fisica, of Florence, has recently awarded the first triennial Galligo prize to DRS. A. BIANCHI and C. BALOCCHI for their essay on "Regressive Spinal Paralysis of Infancy."

THE BRITISH MEDICAL ASSOCIATION; MEETING AT BELFAST. — The fifty-second annual meeting of the British Medical Association will be held on July 29, 30,

and 31, and August 1, 1884, at Belfast, under the presidency of James Cuming, M.A., M.D., F.K.Q.C.P.I., Professor of Medicine, Queen's College, Belfast. The Address in Medicine will be delivered by Sir Andrew Clark, Bart., M.D., F.R.C.P., Physician and Lecturer on Clinical Medicine, London Hospital. The Address in Obstetric Medicine will be delivered by George H. Kidd, M.D., F.R.C.S.I., Master of the Coombe Lying-in Hospital, Dublin. The Address in Physiology will be delivered by Peter Redfern, M.D., F.R.C.S.E., Professor of Anatomy and Physiology, Queen's College, Belfast.

Communications in reference to the meeting of the British Medical Association at Belfast, should be addressed to the Hon. Local Secretaries, John Moore, M.D.; Alexander Dempsey, M.D.; John W. Byers. M.A., M.D.

Visitors going from America to attend this meeting can travel by any of the following routes:

1. A "Cunard" steamer will leave (*a*) New York on Wednesday, July 16, arriving in Queenstown about the following Thursday week, July 24. (*b*) Boston on Saturday, July 19, reaching Queenstown the following Monday week, July 28.

2. A "White Star" steamer will leave New York on Saturday, July 12, and on Saturday, July 19; due at Queenstown about July 20 and July 27.

3. An "Inman" steamer will leave New York on Tuesday, July 15; due at Queenstown about July 23.

4. An "Allan" steamer will leave Quebec on Saturday, July 19, arriving in Londonderry about the 26th or 28th of July.

5. An "Anchor" steamer will leave New York on Saturday, July 19; due at Londonderry on July 29.

Londonderry is ninety-five miles from Belfast, and trains run daily between the two places.

The route from Queenstown to Belfast is from Queenstown to Cork, Cork to Dublin (one hundred and sixty-five miles by train), and Dublin to Belfast (one hundred and thirteen miles).

MEETING OF THE INTERNATIONAL MEDICAL CONGRESS AT COPENHAGEN.—The time of the meeting of the British Medical Association at Belfast has been fixed so as not to interfere with the International Medical Congress, which is to begin at Copenhagen on the 10th of August.

A steamer will leave Hull (England) on August 2 and 9 for Copenhagen; and on August 5 a steamer will leave Leith (Scotland) for Copenhagen. Both these places (Hull and Leith) can be reached on any day by leaving Belfast on the previous evening by the cross-channel steamers. Visitors, after attending the meeting of the British Medical Association in Belfast, will have ample time to travel to Copenhagen for the Congress.

HEALTH IN MICHIGAN.—Reports to the State Board of Health for the week ending February 16, 1884, indicate that erysipelas, remittent fever, scarlet fever, and inflammation of the bowels have increased, and that diarrhœa, pneumonia, influenza, and typhoid fever have decreased in area of prevalence.

Including reports by regular observers and others, diphtheria was reported present during the week ending February 16th, and since, at eleven places, measles at ten places, and smallpox in Bath township.

OBITUARY RECORD.—DR. GEORGE ENGELMANN, of St. Louis, died of pneumonia on February 4, in the seventy-sixth year of his age. He was born in Frankfort-on-the-Main in 1809, and came to the United States in 1832, after having received his education at the Berlin, Heidelberg, and Würzburg Universities. He went to St. Louis immediately upon his arrival in this country, and there began the practice of medicine and the study of the natural sciences. He was one of the founders of the Western Academy of Science in 1836, and later, one of the originators of the St. Louis Medical Society. In 1856 he was largely instrumental in founding the St. Louis Academy of Science, and was, for many years, president of that body.

Dr. Engelmann won an enviable reputation throughout the United States and Europe, of being one of the finest botanists in America. For forty-seven years he made it a part of his occupation to take meteorological observations several times a day, and only discontinued this practice two days before his death. He was the oldest practitioner in St. Louis. His only child is Dr. George J. Engelmann, of St. Louis.

—— Died at Edinburgh, on February 11th, DR. JOHN HUTTON BALFOUR, Emeritus Professor of Medicine and Botany in the University of Edinburgh, Regius Keeper of the Royal Botanic Garden, and Queen's Botanist for Scotland. He was born in 1808. He was a member of many learned societies both at home and abroad, and was the author of a variety of books and articles on botany, including the *Manual of Botany* and *Botany and Religion*.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM FEBRUARY 19 TO FEBRUARY 25, 1884.

BROWN, JOSEPH B., *Lieutenant-Colonel*, and BILLINGS, JOHN S., *Major and Surgeon*.—Directed to attend the International Health Exhibition in London, and, as delegates, the International Medical Congress at Copenhagen, to be held in May and August next, respectively; also to include Berlin in their route to or from Copenhagen, and to be governed by special instructions from the Surgeon-General in complying with this order.—*S. O. 44, Par. 8, A. G. O.*, February 21, 1884.

WOODWARD, JOSEPH J., *Major and Surgeon*.—Leave of absence still further extended six months, on account of sickness.—*S. O., 44, Par. 11, A. G. O.*, February 21, 1884.

HORTON, S. M., *Major and Surgeon*.—Having reported at these Headquarters from leave of absence, ordered to Fort Hays, Kansas, for duty.—*S. O. 40, Par. 2, Headquarters Department of Missouri, Fort Leavenworth, Kansas*, February 20, 1884.

PATZKI, JULIUS H., *Captain and Assistant Surgeon*.—Leave of absence extended one year, on surgeon's certificate of disability, with permission to go beyond the sea.—*S. O. 43, Par. 9, A. G. O.*, February 20, 1884.

MADDOX, T. J. C., *First Lieutenant and Assistant Surgeon*.—Assigned to temporary duty at Meyer's Springs, Texas.—*Per Post Orders No. 27, Par. 1, Fort Clark, Texas*, February 13, 1884.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*